

MONDAY, JANUARY 16, 1871.

ORIGINAL LECTURES.

A CLINICAL LECTURE

ON A CASE OF ŒDEMA OF ONE LOWER LIMB FOLLOWING TYPHOID FEVER, AND ON THE DIVERS VARIETIES OF EXTERNAL SWELLINGS OCCURRING AFTER LOW FEVERS.

Delivered at the Pennsylvania Hospital, December 17, 1870.

BY J. M. DA COSTA, M.D.,

One of the Physicians to the Hospital.

GENTLEMEN:—The case that I bring before you this morning belongs to the rarer yet very important sequelæ of low fevers, and I shall take this opportunity of calling your attention, while explaining the morbid phenomena before us, to the whole subject of œdematous, or apparently œdematous, swellings happening after fevers.

But let me first read you the history of the case, as it has been drawn up by my clinical assistant, Dr. Herbert Norris, and let us re-examine, as we proceed, some of the points mentioned.

Joseph McI—, occupying Bed 31 of the men's medical ward, was admitted November 3, 1870. He is 27 years of age, single, and moderately temperate; has always been a very healthy man; never had any form of rheumatism. Ten weeks prior to his coming into the Hospital, and while at Paterson, New Jersey, he was taken down with typhoid fever, which was of so grave a type as to confine him to his bed for eight weeks. On recovering his consciousness, in the third week of the fever, he noticed that his right lower extremity was swollen to twice its normal size and pitted deeply on pressure. The swelling was uniform from hip to toes, but was unattended with pain or tenderness. There was, however, some stiffness of the tendons at the back of the knee, which made extension of the leg difficult and painful. Flexion of the knee was painless, all other joints moved freely, and there were no signs of local inflammation. The skin of the whole limb was pale and shiny, and nowhere was the least redness noticed. There was numbness of the entire extremity, but no marked loss of sensibility. About two weeks before he applied to the Hospital, he himself observed that the right inguinal glands were enlarged and somewhat painful, but after a few days they gradually diminished. No swelling of the left limb existed; but since he first noticed the affection of the other, he has been aware of impaired sensibility of the skin on the front of the left thigh, extending from the hip to the knee.

On admission, the man appeared to be in good health, but thin. The tongue was clean; the appetite fair; the bowels were rather constipated. There was swelling of the right leg and thigh, with some enlargement of lymphatic glands in the groin. Stiffness of tendons behind the knee still interfered with perfect extension of the leg. Some tenderness on pressure in the popliteal space existed, but no pain on pressure and no signs of enlargement along the course of the veins at any part of the leg. Indeed, the patient had no pain, except to the right of the sacrum. The heart-sounds were healthy; so were the lungs. The urine was pale, straw-colored, acid; contained no albumen; had a slight cloudy deposit, in which were found many oxalate-of-lime crystals.

For the first two weeks after admission there was more swelling of the right thigh; the leg was somewhat œdematous; pain to the right of the sacrum continued. The lower part of the left leg pitted on deep pressure. The spot of insensibility on the left side was more closely investigated, and it was found that while on the front of the right thigh, with the æsthesiometer transversely placed, the two points were somewhat confused at $1\frac{3}{4}$ inches, but the sharp points were felt as such, on the front of the left thigh at the same spot there was no pain from the pricking of the points on considerable pressure and penetration,—only a feeling of weight; yet the

two points began to be confused only at the same distance as on the other side. No loss of sensibility existed below the knees, on either side, to pain or contact, though there was a feeling of numbness on the right side.

Electro-muscular (faradaic) *sensibility* was perfect in the left lower extremity, except in the oval space over the quadratus femoris muscle, where a current sufficient to produce marked muscular contraction was scarcely felt, although the dampness and weight of the electrodes were distinctly perceived; with a dry electrode there was no feeling on the skin, or the current was even less discernible than when sent into the muscle with the wet sponge.

Electro-muscular-contractility on this side was wholly unimpaired.

On the right side the electric sensibility was greatly diminished from the hip down, especially below the knee,—ordinary sensibility to pain, cold, and weight remaining unimpaired. When, however, one pole was placed at the outlet of the sciatic nerve, and the other in the course of that nerve in the popliteal space, or down the leg, most painful sensation was produced along the nerve-trunk.

Electric contractility in all the muscles of the right side was somewhat, but not greatly, diminished. There was no pain on pressure upon the region over the sciatic.

Under the use of stimulating frictions, of rest, of good nourishment, and of a solution of peracetate of iron, exchanged after a time for the iodide of iron, of the local application of the compound iodine ointment over the swollen glands, and of faradization with a metallic electrode over the spot of insensibility, the patient improved greatly. When he was exhibited to the class the improvement had fairly commenced. We have since ascertained that he has gained twenty-five pounds; he looks well, and walks about, though some of the swelling still persists and is aggravated by exercise, and the enlargement of the glands can still be discerned. The temperature in the left axilla is only 97° . When he was before the class (December 17) the electrical phenomena were re-tested, and with the same result. The faradization on the left side has now produced a most beneficial change in the sensibility of the anæsthetic part.

We have, then, before us a case of one-sided swelling, œdematous in character, without pain or tenderness, and without disease of the heart or kidneys. An affection of these viscera, should it even have been present, would most likely have given rise to a double-sided swelling; but, under any circumstances, neither to these causes nor to an affection of the blood can the unilateral tumefaction here be assigned. We are bound to look for a more local source to interpret the limited disorder; and at first sight the most probable cause is the one which is assumed to explain all or most cases of the kind following fevers,—phlegmasia dolens, or milk-leg,—and which again is thought to be dependent upon phlebitis with coagulum in the iliac or femoral vein.

But what is the evidence here? Is it in favor of such a view? I think not. There is no fever, as is so common in this affection; nor a heightened temperature, nor tenderness, nor pain; nor do we find signs of disordered venous circulation. We must thus either admit that phlegmasia dolens can occur without its most characteristic symptoms, and not consent to associate it—as is most usually, I will not say invariably, done—with alteration of veins, or refuse to group this case with it. Indeed, observation has taught me that these swellings after fevers may be of diverse origin, and that to attribute them all to one cause is incorrect.

Undoubtedly there are cases in which inflammation and obstruction of the veins happen; but, after investigating the subject of these swellings following low fevers, I am sure that the occurrence of true phlegmasia dolens, particularly if we link this disease to phlebitis or venous obstruction, is the cause most seldom present. Pain of any kind, in truth, if we except that from stiffness and inaction of the limb, was, in the cases I have met with, a rare symptom.

The old idea concerning these swellings following fevers was that they were due to inflammation of the subcutaneous cellular tissue; and I believe this view to be correct for some cases. Yet I do not think it is of very general applicability; for, if such were a common cause, would not abscesses much oftener result from the affection? Abscesses do, however, sometimes happen. I could narrate to you an instance; and several have been placed on record by M. Dauvé (*L'Union Médicale*, 1866). In one of his cases an enormous enlargement of the upper and inner half of the right thigh was observed on the twenty-fifth day of the typhoid disease; and deep fluctuation could be felt. An incision gave vent to about a quart of blackish-brown fluid. The patient died, and in the thigh was a cavity as large as the fist, formed chiefly by the aponeurosis of the vastus internus, which in part was reduced to the condition of a blackish pulp. In this instance, then, the muscular structure shared in—perhaps was the chief seat of—the affection.

But none of the causes so far mentioned can be evoked to explain the case before us. Looking at the coexisting glandular enlargement and the spot of cutaneous anaesthesia on the left leg, the most probable view seems to be to connect the deep and painless œdema here existing with pressure from the enlarged glands. That the lymphatic glands are at times involved in typhoid fever we know from the concurrent testimony of morbid anatomists: to quote a high authority on these subjects, Murchison, "the glands in the fissure of the liver, the gastric, œsophageal, lumbar, or inguinal glands, are occasionally found enlarged." Now, when we reflect that we have here still the evidence of tumefaction of the inguinal glands, it is but fair to presume that the lumbar lymphatic glands, too, are implicated; and, considering that they lie upon and adjacent to the common iliac veins, that the chain of glands stretches across the spine, and that some of them surround the external cutaneous nerve which, derived from the second and third lumbar nerves, supplies the skin in front of the thigh as far down as the knee, and is therefore evidently the chief nerve implicated in giving rise to the insensibility on the left side, we have every reason for assuming the glandular disorder to have been the main originating source of the trouble.

But, before adopting this view, it is necessary that I should explain to you some points of the case which do not seem to belong to it, and which render a spinal origin of the anomalous symptoms apparently more likely. In truth, the difficulty in moving the limb which at first existed, the pain to the right of the sacrum which was near the lumbar plexus and passed down to the beginning of the course of the sciatic, the deficient electro-muscular contractility, and the cutaneous anaesthesia, might, in the light of our present knowledge of the partial palsies which succeed enteric fever, give color to this view of matters. But the disorder on motion was from weight and swelling, not from impaired nervous force; the painful contraction of the limb was the result of keeping it long in one position, and, besides, a feeling of tension and pain at the insertion of the hamstring muscles is very common in marked cases of œdema of the leg; the pain and cutaneous anaesthesia may be better—certainly quite as well—explained by the cause assigned; and with reference to the deficient electro-muscular contractility, I will put you in possession of some facts which may materially influence your opinion of the value of this sign. I have made a number of observations on the matter, and have found that where there are deep-seated œdema and swelling of tissue, the faradaic current does not so readily produce muscular contractions, though there be not the slightest proof of any central nervous lesion. Thus, in referring to my notes of a case in this hospital in March, 1866,

of marked phlegmasia dolens following delivery, it is stated that on the greatly swollen thigh there was no contraction apparent when faradizing over the rectus or sartorius muscle; the electro-muscular sensibility, too, was diminished: the same result was obtained over the body and tendon of the triceps. And, following up this observation, which I repeated in other cases, on limbs greatly distended from cardiac dropsy, I perceived the same. Thus you see that there are circumstances which prevent the sign of defective electro-muscular contractility, so valuable otherwise in the recognition of many spinal lesions, from having its usual significance.

But to return to the case before us. Whether you adopt the explanation of it or not, you will at least have become convinced of the dissimilarity of the causes of the affection, and how incorrect it is to attribute all these swellings to phlebitis or changes in the blood within the veins. Fortunately, the complication of fever under discussion, no matter what its origin, almost always ends in recovery. Its treatment consists in strict rest in the recumbent position, in fomenting the limbs, and in the subsequent use of stimulating frictions, and of bandages. If there be pain and tenderness in the situation of the femoral vein, a few leeches or a blister may be employed; and in such cases frictions had better be omitted. Indeed, looking, as I trust you will now, at the cases with reference to their probable origin, you will learn to modify your therapeutics according to the varying circumstances; and whether to recommend or to abstain from frictions, whether to use diuretics freely or not,—and usually they are serviceable,—whether to employ iodine locally and internally, will much depend on the kind of case before you. Speaking generally, I would say that you must always endeavor to improve the composition of the blood or prevent its deterioration; hence iron is so often of value; and you may frequently with advantage make use of a remedy which I have tried repeatedly,—local sweating; but you will presently learn more about this from a case I shall refer to at some length.

The local disorder is not always in the lower extremity. It may be found in the upper; and Virchow reports an instance in which the œdema was limited to one side of the face and was found to be associated with obliteration of the internal jugular. On the other hand, there may be marked œdema of both extremities after fever, and this may be due simply to the altered blood, with perhaps a more decided granular change of the muscles of the heart weakening the organ; or it may be owing to the same causes that I have already explained, acting more generally. Even the phlegmasia dolens proper may be double-sided, as you will learn from this case. I must ask your indulgence in detailing it so fully: the opportunity it afforded for watching the disease from the beginning; the temperature-observations we were able to make,—and in doing so the most intelligent care was exercised by the resident physician, Dr. E. Richardson;—the fact that a rise in temperature preceded the early manifestations of the local phenomena; and the invasion of one leg after the other, warrant me in reporting it at what would otherwise be tedious length. Then it will illustrate a form of the malady in which there was every reason to believe that the veins were implicated; and it will teach you some details of treatment to which I have thus far only briefly referred.

Catharine B—, 27 years of age, a domestic, was taken sick about December 1, 1868, and at the time of admission into the Hospital (December 14) had well-marked typhoid fever, from which she rapidly recovered, after having copious eruption, diarrhoea, and unusually prominent and large sudamina.

The diarrhoea was checked shortly after admission, and eruption and sudamina had disappeared by the 30th, when

she showed a temperature of $98\frac{3}{4}^{\circ}$; was comfortable, in good spirits, free from all pain, and was apparently getting well. On January 1 she had severe pain in the back, extending to both limbs, with much distress, and there was an accompanying considerable rise in the temperature. The pain was relieved in twenty-four hours by sinapisms to the back and an opium suppository. On the morning of January 3 she complained of pain in the left leg, which was found to be white, much swollen, and very painful to the touch, particularly in the calf, and in the course of the femoral vessels from Poupart's ligament downwards. Temperature, taken at 1 P.M., $100\frac{3}{4}^{\circ}$; pulse, 77; resp., 27. She was ordered a blister 2×6 in. over upper part of femorals, to have the leg elevated on pillows, and $\frac{1}{4}$ grain of sulph. of morphia should the pain be severe. The previous treatment of sulph. of quinia, two grains every three hours during the daytime, and whiskey, which had been reduced from 10 oz. to 2 oz., was continued. 7 P.M.—Leg more swollen, but not tense; is white and very sensitive to touch. There is tenderness over femoral vein, but no very obvious enlargement of veins of the leg. A quarter of a grain of sulph. of morphia, given one or two hours ago, has relieved the pain. Limb was wrapped in cotton. Pulse, 88; resp., 21; temp., $100\frac{1}{2}^{\circ}$.

January 4, 10 A.M.—Very little pain when quiet; limb rather more swollen, and very sensitive. The temperature has fallen slowly since œdema in the limb has been progressing. Pulse, 81; resp., 24; temp., $99\frac{1}{2}^{\circ}$. She was ordered to have the affected limb sweated by slacking lime in a saucer near it. 7 P.M.—Pulse, 81; resp., 27; temp., $100\frac{1}{2}^{\circ}$. 8 P.M.—Has just had the sweating, under which there is free perspiration from the limb. Urine examined this evening. Red, sp. gr. 1020, alkaline, with a heavy deposit consisting of large quantities of amorphous urates and triple phosphates; no casts or albumen.

January 5, 10 A.M.—Feels quite comfortable; has had a good night, but is pale and sallow; tongue moist and free from coating, except a light fur on the back part; appetite fair. Pulse, 72; resp., 24; temp., $98\frac{1}{2}^{\circ}$. Potas. acetat. gr. xx, three times daily. 8 P.M.—No marked change; swelling not diminished. The limb was again sweated and wrapped in cotton. Pulse, 84; resp., 27; temp., $100\frac{1}{4}^{\circ}$.

January 6, 9 A.M.—Still comfortable; has passed a good night; tongue moist; no signs of thoracic trouble; leg about in the same condition as yesterday; no pain or swelling in the right leg. R. Tr. ferri chlor. gtt. xx, three times daily. Sweating repeated, and other treatment, excepting acetate of potassa, continued. Pulse, 75; resp., 24; temp., $99\frac{3}{8}^{\circ}$. 8 P.M.—Taken before class to-day without much inconvenience. Had an increase of pain this morning; relieved by a quarter of a grain of sulphate of morphia. Skin in good condition; no sweating observed, save at the time of the sweating of the leg; leg still very sensitive to touch, but swelling not increased. Pulse, 78; resp., 27; temp., $102\frac{1}{2}^{\circ}$.

January 7, 10 A.M.—No material change; sweating again applied, and the leg then tightly wrapped in cotton. Pulse, of rather small volume, 78; resp., 24; temp., $99\frac{3}{8}^{\circ}$. 8 P.M.—Has had no anodyne to-day, but experiences little or no pain; leg rather diminished in size. Pulse, 75; resp., 27; temp., 102° .

January 8, 9 A.M.—Is free from pain, and has slept well; limb still swollen, but rather less so than yesterday. Pulse, 81; resp., 24; temp., $99\frac{3}{8}^{\circ}$. 8 P.M.—Pulse, 78; resp., 27; temp., 101° .

January 9, 9 A.M.—Pulse, 70; resp., 27; temp., $97\frac{1}{2}^{\circ}$. 7 P.M.—Seems to be somewhat distressed this evening, but has no local pain; leg about the same in size and tenderness as at last note; the sweating of the limb omitted to-day and until further order; other treatment continued. Pulse, 75; resp., 27; temp., 101° .

January 10, 10 A.M.—Leg growing less sensitive to pressure, and sensitiveness over femoral vein almost absent. Pulse, 90; resp., 30; temp., 102° . 8 P.M.—Dry râles over posterior portions of chest both sides. Turpentine stupes ordered. Pulse, 87; resp., 30; temp., $99\frac{3}{8}^{\circ}$.

January 11, 10 A.M.—In much the same condition as yesterday; appetite poor; patient feels uncomfortable, but experiences no pain in left leg except on very firm pressure; limb still wrapped in cotton, with bandages drawn firmly. Pulse,

77; resp., 30; temp. $98\frac{1}{2}^{\circ}$. 8 P.M.—About the same; looks paler than before the supervision of the phlegmasia alba; skin moderately moist; no tendency to dryness of tongue has appeared since December 30. Pulse, 72; resp., 28; temp., $99\frac{1}{2}^{\circ}$.

January 12, 9 A.M.—Leg reduced in size, but is still larger than the other; wrapping of the leg ordered to be stopped; turpentine stupes to chest and other treatment continued, except the quinine to be diminished one-half. Pulse, 69; resp., 21; temp., $97\frac{3}{8}^{\circ}$. 8 P.M.—Pulse, 69; resp., 24; temp., $98\frac{3}{8}^{\circ}$.

January 13, 9 A.M.—No pain in the leg, except in popliteal space on pressure. Pulse, 62; resp., 27; temp., $97\frac{3}{8}^{\circ}$. 7 P.M.—Has been up before the class to-day, and has not experienced any ill effects. Leg again wrapped in cotton and bandaged. Pulse, 60; resp., 22; temp., $98\frac{3}{8}^{\circ}$.

January 14, 9 A.M.—The patient better in every respect; has had a good night. Pulse, 84; resp., 24; temp., $97\frac{3}{8}^{\circ}$. 8 P.M.—Feels comfortable; unable to produce pain by pressure in any part of limb, the tenderness in popliteal space having totally disappeared; swelling not noticeable; some dry râles heard over posterior and lower part of right lung, and rather harsh breathing in left lung posteriorly; leg has been wrapped up in cotton all day. Pulse 78, and stronger; resp., 18; temp., $98\frac{1}{2}^{\circ}$.

January 15, 9 A.M.—Complexion and color of lips much better. 8 P.M.—Râles have disappeared. Pulse, 69; resp., 21; temp., $99\frac{3}{8}^{\circ}$.

January 16, 9 A.M.—Steady improvement. Pulse, 66; resp., 24; temp., $99\frac{1}{2}^{\circ}$. 8 P.M.—Pulse, 72; resp., 24; temp., $99\frac{1}{2}^{\circ}$.

January 17, 8 P.M.—Complains of severe pain in the back about the lumbar region; tongue perfectly clean and moist; limbs free from pain on pressure and otherwise. Pulse, 84; resp., 22; temp., $100\frac{3}{8}^{\circ}$.

January 18, 10 A.M.—Pain somewhat relieved by a mustard plaster to the back, yet continues; she feels uneasy; appetite diminished. Pulse, 84; resp., 24; temp., $99\frac{1}{2}^{\circ}$. The wrapping of the leg was discontinued a day or two since. 8 P.M.—Still uncomfortable. On thorough examination of the legs, the left was found again enlarged in the calf, with a return of pain on firm pressure, and a much higher temperature—the exact record was unfortunately not kept—than the other limb, which was entirely free from any symptoms of a similar attack. Pulse, 83; resp., 24; temp., $101\frac{1}{2}^{\circ}$. Pain in the back continuing, a one-grain opium suppository was ordered; other treatment continued.

January 19, 9 A.M.—Feels still uncomfortable, yet rather better than yesterday. *Right leg extremely sensitive*, but not much swollen. Sensitiveness extends over the entire limb, and is greatest in the calf and over the course of femoral vessels. Pain in the back absent, the pain having, as the patient expressed it, "all gone into the leg." Left leg still painful on firm pressure in the calf, but less so than yesterday; and not so in the course of the femorals, or at all above the knee, nor swelling in any part increased. Tongue slightly coated again, but moist; appetite fair; face flushed; skin hot and rather dry. Pulse, 84; resp., 24; temp., $100\frac{3}{8}^{\circ}$. The limb ordered to be wrapped in cotton and elevated, and other treatment to be continued; right leg to be sweated. 8 P.M.—In about the same condition. Right leg very painful when moved, and when even gently touched, but pain not severe when the leg is left upon the pillow. No change in the condition of the left leg. Tongue rather more coated. Pulse quick and small, 105; resp., 33; temp., $102\frac{1}{2}^{\circ}$. Lung entirely free from disease.

January 20, 9 A.M.—Right leg was sweated last evening, with good result in diminishing pain; swelling not increased. Leg still excessively painful when touched or moved, but almost free from pain when at rest. Region of sensitiveness much more generally diffused over this leg than that first affected, but swelling in the calf is not so great; skin dry; tongue with a slight fur and tendency to dryness. Pulse, 86; resp., 28; temp., $99\frac{1}{2}^{\circ}$. 8 P.M.—Has had an increase of pain in right leg since 12 o'clock. Pulse small, 93; resp., 24; temp., 102° . Liq. morphiae sulph. $\mathfrak{z}\text{ij}$. Sweating to be repeated.

January 21, 9 A.M.—Was relieved of pain shortly after administration of morphia, and slept pretty well. In about the same condition as yesterday, except that pain is absent when

quiet. Pulse, 98; resp., 24; temp., $100\frac{3}{4}^{\circ}$. 7 P.M.—Leg still excessively painful to touch or on movement. A blister had been ordered this morning over the femoral vein, and sweating of limb was repeated. Pulse, 94; resp., 23; temp., $102\frac{3}{4}^{\circ}$.

January 22, 10 A.M.—Feels badly, and has pain in right leg. Countenance paler; tongue still moist; skin dry and warm. Both legs hot and dry, but no pain produced by pressure in left. Pulse, 93; resp., 24; temp., 101° . 8 P.M.—Blister was not firmly fixed yesterday, and another was ordered this morning and applied; also morphia gr. $\frac{1}{4}$ at night, and whiskey $\frac{f3}{4}$ daily; the iron was stopped, and in its place liq. ammon. acetat. given every three hours.

January 23, 9 A.M.—Slept some hours last night, but has a return of pain this morning. Sensitiveness slightly diminished. Pulse stronger and less frequent, 87 per min.; resp., 21; temp., $101\frac{1}{4}^{\circ}$. Morphia gr. $\frac{1}{4}$ again. Sweating repeated. Blister has drawn well. 8 P.M.—Pain has returned, after an abatement following the morphia this morning. Sensitiveness of thigh somewhat diminished, but not so in calf, which is rather more swollen. Tongue moist; color of lips and countenance better since increase of stimulus. Again morphia gr. $\frac{1}{4}$. Pulse, 88; resp., 24; temp., $101\frac{1}{2}^{\circ}$.

January 24, 10 A.M.—Has slept well, and is free from pain; leg less sensitive to pressure; tongue clean; appetite good; complexion better. Pulse stronger, 76 per min.; resp., 21; temp., $99\frac{1}{2}^{\circ}$. Has had free perspiration during sickness only when sleeping. 8 P.M.—Still comfortable and improving. Pulse, 81; resp., 30; temp., $100\frac{1}{2}^{\circ}$. Limb sweated again to-day, and other treatment continued. No morphia given to-day.

January 25, 9 A.M.—Doing well. Tongue perfectly clean. Pulse stronger, 78 per min.; resp., 25; temp., $99\frac{3}{4}^{\circ}$. 8 P.M.—Sweating repeated. Pulse, 87; resp., 24; temp., $100\frac{1}{2}^{\circ}$.

January 26.—Left leg remains well; in right, pain diminishing; still tenderness along the course of the femoral vein, without induration of any of the large venous trunks. An inguinal gland enlarged; has yet pain in popliteal space, but diminished in severity; swelling much reduced since the 23d. There has been great tenderness, also aching pain. Sweating treatment has been continued, but pain was not so much relieved by it as it had been in the other leg; stopped former constitutional treatment, and ordered liq. ferri peracetat. $\frac{f3}{4}$ ss. every four hours through the day. Heart's action strong; slight systolic blood-murmur towards apex. The patient from this time on convalesced rapidly, and she was discharged February 17, with very slight œdema of legs, but feeling strong and perfectly well.

It is not necessary to enter into a detailed explanation of this case, which I think you will understand in the light of the preceding remarks. But before dismissing the whole subject I will call your attention to yet more general swelling, where the whole of the body increases.

Now, of this *general* swelling following fevers, I have seen some curious cases, and not only in typhoid and typhus fevers, but also in the so-called typho-malarial malady. I will report one to you which was very striking. A few months since I attended a young gentleman with a malarial fever of rather blurred type. Towards the end of it he was very weak, but without decided heat of skin, when his whole body began to swell, his face most noticeably and first, yet the rest of the body soon shared in the great increase. The face was so swollen that he was unable to wrinkle his forehead,—a matter which gave him much distress. The swelling was not accompanied by redness; indeed, the skin was pale, elastic, and only in some parts pitted even on the strongest pressure. The tumefaction was unattended with pain; and I could not find in the state of the heart or of the veins, or in the composition of the urine, the least clue to it. Under iron and diuretics, the disorder lessened; yet it remained after he was so far convalescent that he was able to be about. But on getting up there was this difficulty,—he had no clothes to fit him, and my patient, who had gone to bed a slim young gentleman rather proud of his figure, got up a

stout, middle-aged-looking man of portly dimensions. Gradually his annoying corpulency is disappearing, and his friends have ceased to twit him on his suddenly-acquired stoutness.

In cases of this kind the œdema is very deep, and the swelling of the tissues great; yet the pitting is often slight; and the view of there being a more solid exudation than serum, and a coexisting swelling of the muscles, has suggested itself to me; but I have no proof of its existence to offer. The marked anæmia and debility of persons thus affected are always striking; so is the absence of internal dropsies complicating the external affection. And while speaking of these general swellings and their connection with dropsies, let me point out to you a fact which may be of some interest. You know how often in typhoid or typhus fevers, particularly in grave cases, albumen is present in the urine; and it may occur to you, as it did to me, to inquire whether these are the cases in which the swellings under discussion, especially those which are general, follow the temporary albuminuria. They are not. I have examined into the matter in between thirty and forty cases of decidedly albuminous urine in low fevers, and in not a single instance did swelling of the body subsequently happen.

We have thus passed in review the external tumefactions following fevers, both when limited and general, and examined their clinical and pathological meaning. As you will find so little about them in systematic treatises, I venture to hope that the discussion, of which the case before us has been the starting-point, may have proved neither uninteresting nor valueless.

ORIGINAL COMMUNICATIONS.

TREATMENT OF INFLAMMATION OF THE LIMBS

BY CUTTING OFF THEIR MAIN ARTERIAL SUPPLY.

BY S. W. GROSS, M.D.,

Lecturer on the Diseases of the Genito-Urinary Organs in the Jefferson Medical College, and Surgeon to the Philadelphia Orthopaedic Hospital.

ON Monday, December 16, 1867, I was consulted by Robert Miller, a boiler-maker, forty-two years of age, on account of severe subaponeurotic inflammation of the left hand, for which he had been under the care of an irregular practitioner for ten days previously. The whole hand presented an erysipelatous appearance, being red, glazed, tense, and greatly swollen, and the seat of excruciating throbbing pain, which had deprived him of rest for several days. From the palm the inflammation had extended along the course of the tendons to the fingers, which were twice the natural size, partly flexed, and strangulated at their roots, and it also involved the lower third of the fore-arm. His countenance was pallid and anxious; he had no appetite; the tongue was coated, the pulse was irritable, and he was much prostrated by suffering and loss of sleep.

I at once made numerous incisions in the palm, the fingers, over the anterior annular ligament, and the back of the hand, where the tumefaction was greatest, with the effect of giving vent to a considerable quantity of pus and relieving pain. The limb was enveloped in a large flaxseed poultice medicated with acetate of lead and opium, and kept elevated upon a splint. Morphia was freely exhibited internally, and the system was supported by stimulants, tonics, and a generous diet. Three days later the ring-finger showed signs of mortification, and at this time, with the view of moderating the inflammatory action, I taught his wife to make digital compression of the brachial artery.

On the following Sunday evening, free arterial hemorrhage occurred from the openings in the palm and back of the hand; but it was restrained by the wife, who compressed the brachial artery until the arrival of a physician from the neighborhood, who plugged the openings with lint wrung out of a solution

of persulphate of iron. At my usual visit on the next morning there was still some oozing, and on removing the plugs, which had been badly applied, the bleeding recurred, which I controlled until the arrival of Dr. Graham and Dr. Allis, with whose assistance I took up the brachial artery above the origin of the superior profunda.

Up to this time there had not been any considerable diminution in the severity of the local symptoms, and the gangrene now involved the third and second phalanges of the ring-finger. On the following morning I found that the swelling had declined, and that the pain, heat, and purulent discharge had also diminished. In the course of a week the hand had regained almost its natural size, and a distinct line of demarcation had formed on the proximal side of the first phalangeal articulation. Ten days later I removed the offending finger at its metacarpal junction, and in a few days more the cure was perfect.

On the 15th of November, 1870, the man came to my office with slight inflammation of the sheaths of the tendons of the muscles of the fore-arm,—the "ténosynite crépitante" of the French writers,—which speedily disappeared under rest and the local application of tincture of iodine. At this time he had so far recovered the use of his hand as to be able to bring the fingers almost in contact with the palm; but the little finger was bent at a right angle, stiff, and useless, from destruction of a portion of the palmar fascia, which had left a puckered cicatrix in the palm.

Remarks.—The foregoing case affords an excellent illustration of the arrest of acute inflammation by starvation, through cutting off the main supply of blood which supports it; although in this, as well as in most of the reported examples of a similar nature, the primary object in deligating the principal arterial trunk of the limb was to control hemorrhage, and not to lessen or check destructive inflammatory action.

In an elaborate historical article "On the Treatment of Inflammation of the Limbs by the Compression or Ligature of their Main Arterial Trunk,"* Prof. Blackman shows very conclusively that the procedure is of American origin, and awards the credit of introducing it to the notice of the profession to Dr. Henry U. Onderdonk, of New York. On referring, however, to the original paper of Dr. Onderdonk, I find that on June 17, 1814, he took up the femoral artery for consecutive hemorrhage from the articular arteries, in consequence of a longitudinal incised wound of the knee-joint, before inflammatory action had set in, and that he hoped through this procedure to *prevent* violent inflammation and thereby preserve the joint. In his case, therefore, prevention—not the cure—of inflammation was aimed at, and the obviation of inflammation was altogether a secondary object.†

The first attempt to control or check the progress of inflammation when it has once actually set in, by cutting off the arterial supply, appears to have been made by Dr. David L. Rogers, of New York. In "A Memoir on the Utility of Tying Large Arteries in Preventing Inflammation in Wounds of the Principal Joints and Important Surgical Operations,"‡ among other cases, he reports that of a man suffering from acute inflammation of the knee-joint, in consequence of a penetrating wound by a gouge. In consultation with Dr. Mott, "it was determined to cut off the supply of blood by securing the femoral artery in a ligature." The result was most gratifying; in a few days the pain and swelling had completely subsided, without any further discharge of synovia, and on the fifteenth day the wound had entirely closed. This operation was performed on the 4th of August, 1824, and was followed, on the 3d of September, by a similar procedure in the hands of Dr. Mott, for acute inflammation of the ankle-joint from

compound dislocation. The man did remarkably well until the seventh day from the accident, when tetanus set in and death ensued.

It would thus appear that Dr. Onderdonk ligatured the femoral artery to combat hemorrhage following wound of the knee-joint, while Dr. Rogers practised the operation to control existing inflammation of the same joint from traumatism, a treatment reintroduced to professional attention in a similar case by Mr. Maunder on the 13th of May, 1867.§ Dr. Rogers does not, however, make a distinct claim of originality. Indeed, it would seem as if he had merely acted upon the suggestion of Dr. Mott, as, in speaking of his objects in writing the essay, he says, "It is my intention to show, first, the inefficacy of the ordinary mode of treatment in wounds of the large joints, and, secondly, to invite the attention of surgeons to the propriety of cutting off the supply of blood to parts endangered by inflammation. This is a practice which has been frequently urged by Professor Mott from the surgical chair; . . . and I would here acknowledge my obligations to that gentleman for my first idea upon this subject, with the practical lessons that he has so frequently given me of its importance."

The hope expressed by Dr. Rogers that the practice of tying large arteries will become an established and important rule of surgery in the treatment of inflammation has not been realized. With the exception of the cases already quoted, his example has not been imitated; in all other instances where inflammation has been observed to be lessened or checked by arterial deligation, the arrest of hemorrhage prompted the operation. In a pamphlet published in 1866 and entitled "The Hunterian Ligation of Arteries to Relieve and Prevent Destructive Inflammation," Professor Henry F. Campbell has adduced cases in which he tied the brachial and femoral arteries in consequence of secondary hemorrhage from gunshot, the limbs being in a state of severe inflammation and even gangrene. In all of these cases the rule of Mr. Guthrie was departed from, and the main trunk ligated, "with the distinct end in view of combating and checking, if possible, the destructive progress, and, in some, the septic tendency, of the inflammation. In all of these, the pain, the swelling, and turgescence were almost immediately relieved, and the most remarkable change was soon presented, as seen in the character of the discharges." Dr. Daniel F. Wright, of Clarksville, Tennessee, in an article "On the Therapeutic Effects of the Ligation of Large Arteries,"|| sustains the practice of Dr. Campbell, his deductions having been drawn from cases of a similar nature, in which deligation was resorted to for arresting hemorrhage and with equally good results. He does not, however, go so far as Dr. Campbell in advocating the procedure for the relief of inflammation alone, but would restrict it to cases in which, in consequence of the violence of the morbid action, erosion of large vessels was threatened.

I report my own case simply as a proof in favor of the utility of arresting the circulation in inflamed parts. What has been done by the ligature may and has been accomplished by simpler and safer modes of treatment; and I agree with Professor Blackman that deligation of the main artery of a limb is a very serious operation, and one not to be lightly undertaken. With the exception of Dr. Rogers and Dr. Campbell, and possibly Mr. Maunder, the proposed treatment has not met with favor, since experience has demonstrated that other methods are equally effectual. In 1867, Professor Vanzetti,¶ of the University of Padua, proposed digital compression of the main artery for the cure of phlegmonous or articular inflammation of the extremities, and

* *The Cincinnati Lancet and Observer*, N. S., vol. xi. p. 74.

† *American Medical and Philosophical Register*, vol. iv. p. 176.

‡ *New York Medical and Physical Journal*, vol. iii. p. 453.

§ *London Lancet*, vol. i., 1867, p. 751.

|| *Richmond Medical Journal*, April, 1866, p. 315.

¶ *Comptes Rendus*, t. xlvii. pp. 471-5.

detailed two cases as illustrations of the efficacy of this treatment; one being an instance of bad phlegmonous erysipelas of the arm, cured by compression of the subclavian artery, and the other a case of acute arthritis of the wrist, successfully managed by compression of the brachial artery. So manifest have been the advantages derived from manual compression that it now forms the ordinary means of treating such cases at the Padua clinic. It need not be continuous, and the patient may be taught to exert it himself. In general, it need only be maintained for eight or ten minutes, and, after resting, again resumed. Professor Nélaton, in a case of inflammation of the hand after a lacerated wound necessitating amputation of a finger, obtained good results from compression of the brachial artery;* and I taught the wife of my own patient how to compress the same vessel, with directions to resort to it as often as her ordinary household duties would enable her. From the indifferent manner in which it was exercised, it appeared to exert no influence whatever; but it did capital service in another way. I had explained to her that the compression was intended to cut off the supply of blood to the inflamed hand; and, being an intelligent woman, when secondary hemorrhage occurred, she argued that the same measure would restrain the bleeding, and she was thus enabled to control it until the arrival of a physician.

The same principle of practice has been carried out in other ways. Thus, Mr. Jackson, of the Sheffield Hospital, subdued an inflammation of the knee-joint, consequent upon punctured wound, by compression of the femoral artery with a tourniquet for forty-eight hours;† but the disadvantage of the use of an instrument is obstruction to the venous return. The *Lancet*, December 7, 1867, has briefly noticed "a case of severe traumatic inflammation of the hand, under the care of Mr. Moore, at the Middlesex Hospital, in which the compression of the artery was procured by acupressure. The treatment here was quite successful."

Upon the whole, manual compression is to be preferred to other measures which have for their object the arrest of the circulation in badly-inflamed parts. It is perfectly harmless and simple, and does away with the dangers of mortification of the limb, which may ensue when deligation, acupressure, or mechanical compression of the main arterial trunk has been practised. I would have resorted to it myself, had I been able to procure a sufficient number of intelligent assistants; and this is the only objection that can be urged against it.

In instances similar to the one that I have narrated, the hemorrhage and inflammation might both be checked by ligation of the radial and ulnar arteries above the wrist, as was done by Mr. Brown, of the Sheffield Hospital, who arrested the bleeding from a wound attacked by sloughing phagedæna at the same time that he put a stop to the phagedæna.‡ In the case of Miller, ligation of those vessels was out of the question, on account of the inflamed and swollen condition of the fore-arm. Ligation of the brachial artery is, however, in my judgment, a better operation, since the circulation is still maintained in very many instances by the interosseous artery when the radial and ulnar arteries have been tied, and the hemorrhage is almost certain to recur. Should the bleeding not return, we can scarcely expect more than a temporary effect upon the inflammation, as the anastomoses between all the vessels about the wrist are so free that the collateral circulation is soon established. Securing the brachial artery above the superior profunda branch prevents the rapid formation of the collateral circulation, and time is thus given to the inflamed parts to regain their tone.

THE APPLICATION OF LOCALIZED MOVEMENTS

TO THE TREATMENT OF CERTAIN FUNCTIONAL NERVOUS DISORDERS.

BY WM. R. FISHER, M.D.,
of New York.

(Concluded from page 115.)

PART III.

THE cases of bedridden women which have been cited had both been pronounced by reputable physicians to be hysteria; and in that decision it is probable that the majority of readers will concur. And if by that term is meant a functional nervous disorder, implicating the various organs of the body, to a greater or less extent, in abnormal and irregular manifestations, independent of the influence of the imagination as a determining cause, and curable by a treatment directed to the nervous system through psychological agencies, it may be accepted as a proper term. But the old idea of the dependence of "hysteria" upon local disease of the uterus, notwithstanding the efforts of many modern authors to correct it, is still so deeply engrafted in the minds of the profession at large that it seems to be impossible to remove it. When called to such a case as we have described, the first step in the investigation is to attack the uterus as the head and front of the offending; and if a slight displacement or a trifling disorder in the menstrual function can be detected, or the presence of leucorrhœa can be established, the routine practice is to direct a local treatment to this organ for the removal of the general symptoms. It is too often forgotten that, as the genital apparatus necessarily participates in the relaxation which affects the tissues throughout the body in these cases, displacements of the uterus should therefore be anticipated in them, and that the disturbances in function which may be presented in the organ are as much entitled to be regarded as symptomatic of a general cause as those which are to be found in the digestive organs or the muscles. It is true that a serious affection of the uterus may act as a shock upon the system at large in such a way as to produce the condition which has been described; but a comprehensive experience has established the conviction that the occurrence of disturbances in uterine function is much more frequently its sequence than its cause. If the physician be unsuccessful in his search for a diseased uterus upon which to commence his assault, it is then the common practice to accuse the patient of parading her imaginary woes for the purpose of exciting the sympathies of her friends, and to urge a course of treatment in accordance with this idea; but the inability to recognize the reality of the impressions which are transmitted to the mind of the patient who suffers from these functional nervous disorders, perverted though they be, and inexplicable by the slight amount of organic lesion to which they may be attributed, is the secret of the failure which attends the efforts of practitioners to cure them,—efforts which are futile because misdirected. Instances of pretended or imagined symptoms, similar in many respects to those which have been presented in the preceding cases, are to be met with occasionally among weak-minded women; but to such the present article is in no way applicable, nor can the term "hysteria" be admitted as a proper title for the condition of which it treats, if it is to be restricted to them.

But ill success in treatment, instead of bringing about a correct appreciation of the true nature of the case, is too often set down as due to a mistake in localizing the affected organ, and hysteria yields to the still more indefinite hypothesis of "spinal irritation," based upon the hyperæsthesia which is an almost constant symptom, and is usually most strongly marked along the

* *Gazette des Hôpitaux*, 1867, p. 114, and *Biennial Retrospect for 1867-8*.
† *London Lancet*, vol. i., 1867, p. 794. ‡ *Ibid.*

course of the spinal muscles. Counter-irritation by setons, blisters, or less powerful applications is now employed, to the decided injury of the patient, by depressing still further her enfeebled powers. This symptom of back-ache is one of the early indications of failing strength. Its seat is entirely muscular, and the hyperæsthesia shows itself primarily in this locality because in these cases the muscles which sustain the spinal column are more severely and constantly strained than any other in the body. But, instead of resorting to suitable hygienic measures to restore the overtaxed system, the patient, failing to recognize its true significance, is apt to attempt to overcome the growing sense of feebleness by increased exertion; and hence in practice innumerable instances are met with in which this local hyperæsthesia, together with malaise and a general enfeeblement, are the only indications of the development of functional nervous derangement which, if unchecked, may in time involve the whole body. The advocates of the theory of "spinal irritation" lay great stress upon the presence of tenderness along the spine on pressure, and claim that herein is to be found a positive indication of local disturbance within, though, physiologically considered, the pain in the back is no more an evidence of disease in the spinal cord than the headache which often accompanies it is a sign of cerebral disease. They have mapped out the cord into three regions, each productive of a distinct set of symptoms when involved, but they do not agree among themselves as to the nature of the morbid process which gives rise to so much mischief. Some authorities attribute it to congestion of the cord, while others ascribe it to anæmia. But it is difficult to conceive how either theory can be correct, when we remember that cases are often quoted as having existed for months and years without leaving any lesion behind. It has been shown that the sensory function may be perverted in a variety of ways in these cases of bedridden women. It may be diminished or, altogether absent in certain localities, or it may be intensified; and the latter is more commonly met with. The organs of special sense are especially liable to present this excess in function, and the patient may actually be capable of seeing, hearing, tasting, and smelling what would be imperceptible were she in a normal condition. She is unable to endure the admission of light into her room, and remains for months in almost total darkness, or perhaps she is irritated beyond endurance by the sounds of conversation carried on in ordinary tones in a distant part of the house, or by the sound of the needle and thread in sewing. Certain articles of food, of which she was fond when in a state of health, have now become disgusting to her, and the odors of flowers are perhaps nauseating. The nerves of ordinary sensation also frequently manifest their participation in the state of general hyperæsthesia. At times it is distributed over the whole body, so that the slightest touch upon any portion produces the most acute distress to the patient; but more frequently it is confined to certain localities, under the form of neuralgias, pseudo joint-affections, persistent headaches, or back-aches. But, besides these customary evidences of morbid excitation in the nerves of special sense and sensation, there sometimes exist a series of perverted sensations in the viscera. The processes of organic life, which in the normal state are not made manifest to the sensorium, may thus become sources of positive pain and distress. The heart and great vessels may be the seats of alarming pulsations or palpitations, not always, however, appreciable to the physician; the respiration may in like manner be distressing and disturbed, and the bowels and stomach may furnish subjective symptoms of serious disorder. Can it be possible that a condition of the body, embracing at one time all of these evidences of functional disorder of the cerebro-spinal and sympathetic nervous

systems, may correctly be ascribed to a local, vascular disturbance of the spinal cord, which continues for many months without abatement, and yet, under the simple treatment already described, can be totally removed? If it be so, the spinal cord has certainly been gifted by nature with powers of endurance and reparation far in advance of other organs.

In approaching his case, the physician should disabuse his mind completely from the idea that he has to deal alone with a morbid and perverted imagination. The persons who are bedridden from functional disorders are not usually weak-minded women, naturally predisposed to an ascendancy of the emotions, but, on the contrary, the intelligent, the cultivated, and those who are accustomed to devote much of their time to works of benevolence and charity, with too little regard for self-interest in matters of comfort, occupation, and health, make up in large proportion the bulk of sufferers from this variety of nervous disturbance. It is true of this condition, as of all others in which there is prolonged suffering, whether dependent on functional or organic derangement, that the mind yields at last to the influence of a continued series of morbid impressions, and becomes a powerful agent in perpetuating a state of emotional excitement; but in tracing back the case to its starting-point it will usually be found that the morbid self-consciousness which is often a prominent symptom has slowly been evolved from a mental condition originally diametrically opposed by a sudden or gradual shock acting upon an overtaxed organization. Excessive mental and physical labor in connection with our charitable associations, or in individual efforts to contribute to the slender means of a struggling family, are prolific agents in producing this condition among our women; while the influence in the same direction of sudden shocks upon a person in feeble health, as by physical injury, unexpected reverses in fortune, domestic affliction, and the like, may readily be appreciated. An acute disease may in its subsidence leave the patient in a state of utter helplessness, from which recovery does not take place because the mind remains unconscious of returning strength. It may be associated with a chronic disease of some particular organ, or the determining cause may act so insidiously as to elude the notice of the patient and physician. But it is probable that the majority of cases which arise between the ages of twenty-five and thirty-five have their origin in the peculiar relation which exists between the female organization and the proper gratification of the maternal instinct. The state of marriage is wellnigh an absolute essential to the perfect health and happiness of a woman, since, by entering it at a suitable age, not only is the sexual appetite turned from channels of immoral thought and practice to the performance of its physiological function, but occupation and an aim in life are supplied for mind and body, as designed by Nature for the maintenance of the necessary equilibrium between her vital forces. The influence of an opposite course of life, when too far prolonged in women after puberty has been attained, in producing functional disturbances of the nervous system, has long been recognized.

Comprehending the essential element of the condition which he is about to treat,—a disordered perception and volition, and not a whimsical imagination,—the physician's first step in preparation must be to obtain the full confidence of his patient; but, thanks to the blunderings of his predecessors, this is often an arduous task. She has been told, perhaps, by one doctor that she is suffering from "spinal disease;" by another, that the uterus is the seat of her trouble; by a third, that spinal congestion or irritation is the cause of her many ailments; until at last she has become disgusted with the varying opinions which experts have offered in her case, and has lost all faith in medical skill to relieve

her. Her friends, perhaps, through ignorant advice, have been led to believe that she is merely "hysterical," and, turning from a course of irksome condolence and sympathy, have assumed a tone of unbelief in the reality of the feelings which she describes, and are incessantly urging her to exertions which her consciousness tells her are far beyond her powers. Against these accumulated errors the influence of the physician must be exerted to explain the true origin of her affection, to reconcile the multiplicity of its manifestations with the unity of their cause, and to obtain an absolute reliance in the correctness of his directions for its cure; and not until he has surmounted these obstacles is he ready to commence the treatment. It is usually necessary to allow an interval of a few days to elapse before active measures are adopted, and to wait until some indication of reaction from the despondency which is usually present is manifested. This may, however, be materially shortened by unobtrusively directing the thoughts of the patient into the new channels which he has opened, and by taking care that those around her shall assist by their tone and manner in reawakening her confidence and cheerfulness. The process by which the treatment is conducted is immaterial, so long as the indication to be fulfilled is kept clearly in view; and the main features have been described with sufficient precision in the cases already cited to obviate the necessity for repetition. Any procedure which may tend to control the attention, to correct morbid perception, and to educate the powers of the will, is treatment rightly applied, and the physician must rely upon his own judgment and tact in the choice of means. He must understand that it is not the province of the "movements" to cure his patient by virtue of a specific power or influence, and he must use them solely as the most effectual means to subdue the nervous manifestations and to correct abnormal function. To this end he should avoid as far as possible the attempt at palliating distressing symptoms by medication, teaching his patient to look for relief in the gradual rejuvenation of her powers rather than to temporary aid from drugs.

There are certain opposing circumstances which may militate against a successful issue in dealing with these bedridden cases. If there be an incurable organic disease which by its reactive influence tends to the continuance of the functional derangements, it is probable that little can be done for their relief. The existence of a stubborn wilfulness on the part of the patient, or the absence of the necessary moral qualifications in the physician to insure a complete control and bring about in her a submissive obedience to his directions without question or reservation, will also effectually prevent the establishment of that psychological relation between them which is, in fact, the prerequisite to success. Again, the domestic surroundings of these patients may tend to subvert our best efforts. The relatives, who may be in constant attendance upon them, are seldom capable of controlling their natural impulses sufficiently to divert those influences which act as disturbing causes through the emotional faculties. Unskilled in the niceties of management which are required, they are unable to tell when to oppose and when to yield, and therefore either assume a forced attitude of rigid opposition, which alarms and excites the patient, or, as is more usual, give way too readily to their feelings and interfere with the exercise of the moral control which we aim to develop. The progress of the case from day to day is discussed, the probable duration of the treatment is canvassed, the indications of success or failure are carefully weighed,—in short, every passing feeling which may relate to the object of their solicitude finds expression in their daily conversation. A patient may thus be kept in an atmosphere of emotional excitement, to her positive injury, which no efforts of the physician can remove. It is

always more difficult to manage these cases at home than in a private institution, where the usual associations and surroundings are completely broken up. The course of recovery will frequently be slow, even under conditions the most favorable to a well-regulated regimen, nor will it answer to attempt by a sudden impression an overthrow of the derangement which for months or years has swayed the organism. Such a plan, though sometimes apparently successful in the hands of charlatans, is rarely lasting in its effects, and presents the great danger in its application that, if it fail, the confidence of the patient is immediately lost, perhaps never to be regained. Progress should, then, be gradual, bearing in mind that it is the restoration of power which is aimed at, not the development of muscle.

The object of this article has not been to point out any new features in the symptomatology of these functional nervous disorders, which have been recognized for a long time, but to reiterate the theory of their causation which was advanced by Dr. Charles F. Taylor in 1868, and to add some illustrations of the applicability of the plan of treatment which he explained at that time. Inman, Skey, Murray, and others have directed the attention of medical men to the existence of disorders depending upon nutritive derangements of the nervous system, and have done much towards the removal of erroneous opinions, but Dr. J. Russell Reynolds, in the *British Medical Journal* for November 6, 1869, has advanced still farther in the right direction. He therein states that some of the most serious disorders of the nervous system, such as paralysis, spasm, pain, etc., often depend on a morbid condition of emotion, of idea and emotion, or of idea alone. By these expressions, however, Dr. Reynolds does not mean to imply that the condition which he describes is in any way a product of a morbid imagination, for in the interesting cases which he quotes he lays particular stress upon the reality of the symptoms so far as the patients are concerned, distinctly stating that they "may occur independently of anything that could be called either insanity of mind, hysteria, hypochondriasis, or malingering," though admitting that these may arise as complications. He recognizes the primary cause to be morbid impression, arising from a determining shock, either sudden or gradual, acting upon a system impaired in its nutritive functions, and suggests that this "morbid impression may be perpetuated after the manner that certain impressions may be retained by the organs of special sense after the removal of the first producing cause." The treatment which he proposes is directed to the alteration of the affected volition and perception, and is practically the same as that which we have described.

We have seen that these disorders are dependent in many instances upon functional disturbance unconnected with organic change, giving rise in various degrees to perverted or defective volition, increased activity of the emotions, and altered, exaggerated, or diminished perception. On the other hand, the proximate cause is frequently to be found in distinct and definite disease. To the practitioner, the ability to recognize in the symptomatology of his cases how much is due to organic lesion and how much to abnormal perception and impaired volition, is of the utmost importance as an element in diagnosis and treatment.

NARROW PELVIS—EARLY ARTIFICIAL DELIVERY.—Dr. Otto Spiegelberg, of Breslau, has undertaken to show (*Lancet*, November, 1870, p. 677) by statistics that the results of the induction of premature labor are less favorable than the consequences of waiting for natural delivery, even when the conjugate diameter is a little less than three inches.

NOTE ON THE PHYSIOLOGICAL EFFECTS OF CARBONIC OXIDE.

BY PROF. A. R. LEEDS.

I ACCIDENTALLY respired, some time ago, a quantity of pure carbonic oxide. The gas was contained in a quart bottle, from which I inhaled certainly less than a pint—probably a quantity not exceeding a gill—into my lungs, previously exhausted through expiration of atmospheric air. For a moment no change of mental impressions or of bodily feelings was noticeable. The next, without any intermediate condition, I was struck senseless to the floor. Fortunately, the bystanders rushed immediately forward, tore open my clothing, poured water upon my wrists and head, and applied violent friction to my limbs. The pulse had stopped beating, or beat so feebly that in the agitation of the moment it was imperceptible; the chest had ceased to expand and contract, the complexion had assumed the livid hue of death, and the temperature of the body was rapidly falling. The operation of the carbonic oxide was so immediate as to prevent the lungs from throwing off the single charge they had received, and the shock arising from the remedies employed probably enabled them to do so. A slight nausea, which passed off in the course of a few hours, and a dullness and oppression in the crown of the head, lasting some time longer, were the only effects which remained after restoration to consciousness.

NOTES OF HOSPITAL PRACTICE.

PENNSYLVANIA HOSPITAL.

SERVICE OF JAMES H. HUTCHINSON, M.D.

NOTES ON THE TREATMENT OF ACUTE RHEUMATISM.

(Abstract from a Clinical Lecture delivered Wednesday, Dec. 21, 1870.)

THE case which I now bring before you is one of acute rheumatism, not, however, of very great severity. The notes of the case were taken by Dr. Gerhard, and are as follows:

Sarah McC—, aged 49. Irish; cook; married; admitted December 2, 1870. No family history of any tendency to disease. Health previous to present sickness has been good. Had an attack of rheumatism that came on suddenly after exposure to cold and damp. The attack lasted seven weeks, and left her right arm crippled. She regained her general health, and continued well until about four weeks ago, when after exposure to cold and wet she was seized with severe pain in the left wrist, which was aggravated by motion and pressure. She had slight fever; no sweating. On admission the patient was pale and anæmic. Ordered ammon. bromid. gr. xx q. q. h. and good diet. Distinct systolic blowing murmur heard both at base and apex of heart; soft in quality. No albumen in urine.

Dec. 5.—Temp. $98\frac{3}{4}^{\circ}$. Dec. 6.—A.M., pulse 79, resp. 26, temp. 99° . P.M., pulse 76, resp. 24, temp. $98\frac{3}{4}^{\circ}$. Murmur not quite so distinct. Slight dullness at base of heart, indicating, it is thought, a little pericardial effusion.

Dec. 8.—Pulse 82, temp. $98\frac{1}{2}^{\circ}$.

Dec. 9.—Pulse 84, temp. $98\frac{1}{2}^{\circ}$. Pain in wrist has very much diminished. Complains occasionally of muscular pains in back and thighs.

Dec. 10.—Pulse 96, temp. 99° . Bowels constipated.

Dec. 11.—Pulse 84, temp. $98\frac{3}{4}^{\circ}$.

Dec. 12.—Pulse 88, temp. $98\frac{1}{2}^{\circ}$.

Dec. 14.—Pulse 88, temp. 99° .

Dec. 15.—Temp. 98° .

Dec. 16.—Temp. $97\frac{3}{4}^{\circ}$. There is now merely prolongation of the first sound at the apex of the heart.

Dec. 18.—Pulse 72, temp. $97\frac{1}{2}^{\circ}$. Some return of pain to the wrist. To be blistered.

Dec. 21.—Vesication has not been produced, but pain has been relieved. No elevation of temperature has been noted since the 14th.

I have introduced this case for the purpose of making a few remarks as to the treatment of acute rheumatism. It is obviously a matter of more importance to prevent, if possible, the occurrence of cardiac complication, than to shorten the duration of the fever; but experience has demonstrated that a remedy which has apparently the power of fulfilling the latter indication is not less useful as regards the former. The alkalies given in the doses recommended by Dr. Fuller, of London, undoubtedly diminish the temperature, shorten the duration of the attack, and diminish the liability to cardiac complications. They do not, however, prevent the occurrence of relapses, and if long continued certainly produce a condition of anæmia, which prolongs the convalescence, and consequently the stay of the patient in the hospital. The great bulk of the dose is likewise an objection,—a minor one, it is true, but still an objection less likely to be overcome in this country than in England, where large doses prevail. Soon after my election to the position of visiting physician to this hospital, I adopted the treatment proposed by my colleague, Dr. Da Costa, who gives the bromide of ammonium in doses of fifteen to twenty grains every three or four hours. The number of cases treated in this way by myself are as yet insufficient to allow independent conclusions to be drawn from them, but the results are to a great extent, at least, confirmatory of those already published. I have found that the administration of the remedy was generally followed by diminution of the number of pulsations of the heart, by a lowering of the temperature, by a subsidence in the local symptoms, and by a marked decrease of the pain and discomfort. The urine is perhaps slightly increased in amount under its use, but continues to have an acid reaction, so that the relief of the symptoms is not due to the production of an alkaline condition of the blood and of the secretions. In but one case has a cardiac complication developed itself where I could reasonably suppose that the system was under its influence, and in but one case, the one just referred to, has a relapse occurred. The average period of treatment is perhaps longer than that claimed for his treatment by Fuller, but, on the other hand, convalescence is more rapidly established and patients are able to return sooner to their occupations. Small doses of opium or of some of its preparations were occasionally given, but never in sufficient quantity to influence the result. As soon as the thermometer indicated the absence of fever, or sooner if there was evidence of the presence of the typhoid state, cinchona or some of its preparations were given. Beef tea and stimulus were always given where there were any indications for their use. In a few of the cases the bromide purged, but this effect was generally not produced until after it had been taken for some days and a decided modification of the symptoms had been produced by it. The purging, moreover, was generally held in check by the use of opium suppositories.

The local treatment adopted in the hospital is very simple, and consists in placing the inflamed joint in the most comfortable position and surrounding it with raw cotton or wool. If there be a tendency on the part of the disease, as in the case before you, to become fixed in a joint, the application of a blister may frequently be of advantage.

The endocardial murmur in this case appears to me to be of anæmic origin, as it certainly possesses many of the characters of murmurs of that class. The pericardial effusion was slight in amount, and was evidently not dependent upon active inflammation of the pericardium. If, however, there had been evidences of either endo- or pericarditis, I should have given small doses of digitalis in conjunction with the bromide, and continued its use so long as the pulse continued regular; and if there was pain in the præcordia, enough opium to relieve it. When effusion has taken place and the violence of the inflammation has somewhat subsided, a blister over the heart will generally promote absorption and hasten the return to health.

It will have been noticed that the thermometer on several occasions indicated a temperature of only 97° . In my experience an abnormally low temperature is not infrequent during

* For a paper on this subject, see Pennsylvania Hospital Reports, vol. ii.

the defervescence of rheumatism, which is sometimes indicated by a very rapid fall.

I may add, in conclusion, that the inflammation of the wrist, which occurred some years ago and was followed by suppuration, could scarcely have been of rheumatic character.

EPISCOPAL HOSPITAL.

SERVICE OF JOHN H. PACKARD, M.D.

CASE OF SEVERE TRAUMATIC TETANUS, RESULTING FAVORABLY UNDER THE USE OF CALABAR BEAN.

JOHN O'NEAL, aged 10, a stout, healthy boy, was struck on the back of the head with a brickbat, September 17, 1870. A severe wound of the scalp, a little to the right of the median line, resulted, and he was treated for this at the Hospital Dispensary,—no fracture being then detected.

On the 27th, paralysis of the right upper eyelid was noticed; and on the 3d of October, sixteen days after the receipt of the injury, he was admitted into the hospital. He then had severe trismus, a marked sardonic grin, the head forcibly retracted, and the whole spine in a state of rigid opisthotonos. Convulsions occurred about every two hours, during which all the symptoms were intensely aggravated. Bare and roughened bone could be felt at the bottom of the wound. He was put at once upon ext. physostigmæ gr. j every two hours, with ext. opii. gr. $\frac{1}{4}$ to control the convulsions. The first and second doses of the former acted decidedly upon the pupil, which was afterwards unaffected. Concentrated nourishment was given, and subsequently free stimulation. Dry cupping along the spine, ice to the nape of the neck, and chloroform by inhalation, were also employed, but apparently with very little effect.

On the 6th of October, nineteen days after the injury, the symptoms being increasingly urgent, I enlarged the wound, and applied the crown of a trephine. By so doing I loosened a fragment of bone, which was removed, together with three others; some pus and $\frac{1}{2}$ ss or more of brain-substance came away.

On the 10th, Dr. J. R. F. Bell, the resident surgeon, noted priapism, and complete closure of the jaws. The patient had to have his urine drawn off with the catheter twice or thrice daily, and his bowels emptied by enemata.

On the 16th, Dr. B. notes, "He has taken gr. ij of the extract of calabar bean every hour for the last four days; pupils normal."

On the 19th, the dose was increased to gr. iij every hour. Pupils dilated. The trismus was so far lessened that he could open the jaw to eat with a spoon.

On the 24th, he had had but one convulsion the previous night, and passed his urine naturally. Pulse, 84. The calabar bean was stopped for a few hours, and the pupil contracted greatly.

On the 26th, pulse 80, and all the symptoms much lessened.

October 28.—Still improving; he passed his urine to-day without the aid of the catheter. Dr. Bell notes that "the second dose of the calabar bean, given to-day, contracted the pupil strongly, and caused nausea and vomiting, abdominal pain, and repeated purging. For an hour the radial pulse could not be felt, and the heart was found by auscultation to be beating only forty-eight times in the minute, very feebly." Tr. belladonna, in $\frac{1}{2}$ ij of whiskey, was given at once, and repeated twice at intervals of half an hour. After the third dose the pupils were slightly dilated, the abdominal pain relieved, and the pulse rose to 60. No more belladonna was given; the calabar bean was suspended for twelve hours, $\frac{1}{2}$ gr. being then administered every three or four hours with marked effect. (It was ascertained that this was a new sample of the extract of calabar bean.) From this time the improvement was steady. A small piece of bone came away November 7, and another November 9. By the 28th, fifty-three days after the trephining, the only remaining symptom of tetanus was a slight grin, which finally passed away imperceptibly. He grew very fat and hearty, and on December 22 was taken into town to be photographed.

December 30.—He is in excellent condition. The wound has, however, not entirely healed, and there is some tenderness of the occiput, especially near the median line. I cannot,

therefore, regard him as wholly free from danger of the occurrence of future symptoms, although the condition of tetanus has been altogether set aside.

The points of interest about this case will readily suggest themselves. The severity of the injury sustained, and the actual existence of a lesion of the brain; the gravity of the operation required; the fact of escape of a portion of brain-substance,—all these things seemed to me at the time, as they still do, to have more than offset the favorable circumstance that he had already resisted the disease, when trephined, for a period of nineteen days.

Another point calls for notice,—namely, the great variation in energy between the two samples of extract of calabar bean employed, showing the necessity of caution in dealing with this remedy. This I have seen in one or two other instances in which I have used it as a spinal sedative. I might mention here that among other publications on this subject, in a discussion at the Clinical Society of London, October 14, 1870 (reported in the *British Medical Journal* for October 22), upon a case of traumatic tetanus successfully treated by Dr. Ogle by means of belladonna, Dr. Anstie stated that Dr. Eben Watson had treated at least three cases with calabar bean, with favorable results; and Dr. Broadbent mentioned another which had recently come under his own observation. Mr. John Croft spoke of a case in which the calabar bean had failed.

THE PRODUCTION OF ASTHENIA OR ANÆSTHESIA IN SURGICAL OPERATIONS BY COMPRESSION OF THE VAGUS NERVE (*The Practitioner*, December, 1870).—In a short paper, probably the last ever written by its distinguished author, the late Dr. Augustus Waller, of Geneva, shows that pressure exerted upon the vagus nerve in the neck produces on man most of the principal symptoms observed on animals when that nerve is isolated and subjected to the direct influence of galvanism. Upwards of twenty years ago, when studying the subject of compression with reference to hysteria and epilepsy, two cases occurred where compression of the vagus was followed by all the symptoms described by Aristotle. "In each case the patient, after moderate pressure, fell down, as if struck by lightning, on the floor before me, like a lifeless corpse, with all the voluntary muscles completely relaxed. Scarcely had I time to become alarmed, when sensation and voluntary power returned, although for some time afterwards there remained considerable weakness and debility, though not sufficient to prevent the patient from walking away unassisted."

These symptoms appear to the ordinary observer to be attended with considerable danger, but such, in reality, is not the fact, as the heart is always found to be pulsating, and the respiration in play. He therefore recommends its adoption in cases where the abolition of muscular power may be desirable, as in instances of dislocated bones of difficult reduction, previous to the employment of the ordinary anæsthetics, the administration of which is attended with a certain amount of danger. As an illustration of the practice, he narrates the case of a powerful, athletic man, in whom, in consequence of a fall, the head of the humerus was dislocated beneath the clavicle. An ineffectual effort had been made to reduce it without chloroform, and, while the messenger was procuring that agent, compression was made of both vagi, while extension and counter-extension were kept up. At the end of two or three minutes, just as the two carotids could no longer be felt beating beneath the fingers, a sudden click indicated the return of the bone into its socket.

As an illustration of the anæsthetic effects of vagal pressure, he says, "A molar tooth was extracted from an out-patient of the Hôpital Cantonal by one of the house surgeons. While the patient was seated, I was prepared, at the back of the chair, to apply pressure on both vagi. As soon as the key was gently applied around the tooth, I began the pressure, and gave a sign to the operator to commence. The result was perfectly satisfactory. According to the statement of the patient, she had suffered no pain, and was most enthusiastic in her thanks to me. At the moment of extraction the patient cried out, which, however, occurs in many instances with chloroform, where, as in this case, the patients afterwards declare they have not felt any pain."

THE MEDICAL TIMES.

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EDITORIAL.

MEDICAL STATISTICS.

No. 1.

WE do not understand the German people; we never did, and we never shall. Their ideas of gay relaxation range from beer and Limburger cheese to merry-makings over metaphysics, to theological quilting-parties, and—for aught we know—to adapting minuets to the stately cadences of logarithms. A ponderous treatise on the Greek Article—why did the Greeks ever use articles?—they call an *excursus*; whilst, ten to one, the frisky word *prolusio* will head the dreariest disquisition on the Sanscrit, or on some other stone-dead language.

We are led to these remarks by some facts elicited in a controversy upon "The Importance of the Arithmetic Means in Physiological Researches,"* which took place not long since between Professor Radicke, of Bonn, and Dr. Beneke, of Marburg. The latter, it appears, spent a few days of a well-earned vacation at two fashionable watering-places on the shore of the North Sea. But, instead of italicizing in his note-book or adjusting to wild dithyrambic measure the "urging waves," the "chiding pebbles," and the "scalloped shells" of the beach, or the "sandalled shoon" and bare feet of the importunate beggars who infest those places, he deliberately called—not for a *demi-tasse*, but—for a *pot-de-chambre*, and thereupon commenced a series of experiments upon his own secretions.†

Behold, O friends! a man and a brother, who, instead of holding sweet commune with Nature, as her friend and equal, attends to her calls like a menial; a man and a brother, who, as it were, in a Cape May hotel, gay with fashion and beauty, canorous with the festive fiddle, calmly sits down to make quantitative analyses of his urine. O Truth, how strange thou art! Hides, Fiction, hide thy diminished head! Language fails us, but not Professor Radicke. Nothing can be more delicate than his rebuke; it has the bouquet, the aromatic effluence, of Pascal's wit.

After very properly taking Dr. Beneke to task for the means he employed,—and very bad ones they were indeed,—not because they were ill timed and ill placed,—as we should have done,—but because they were neither the "Arithmetic Means," nor the "Successive Means,"

nor the "Quadratic Means," nor the "Harmonic Means," nor the "Geometric Means," Professor Radicke neatly spits him somewhat after this fashion: "My good friend! the means of the squares of the fluctuations of your urine are $\frac{1792807}{12} = 149401$ and $\frac{861316}{12} = 71776$, and, finally, $\sqrt{149401} = 386$, and $\sqrt{71776} = 268$. Therefore, the mean fluctuations, indicated by μ and ν in Section VII., are 386 and 268; and their sum, 654, is, consequently, considerably greater than the mean difference, $1549 - 1499 = 50$, which is more than sufficient to indicate a negative result."

"More than sufficient to indicate a negative result!" Of course it is "more;" it is a great deal more than "more:" to our mind the whole result is an intensely negative one. But, pray, what else could be expected from a man who took his sea-air in the form of urate of ammonia, and never once so much as asked the wild waves what they were saying?

We frankly confess—*bonum est confiteri*—that, given a secreting kidney, a few test-tubes and reagents, a microscope, and perhaps a spirit-lamp, we thought all the necessary analyses of urine could be made, without any assistance from the Arithmetic Means. But let that pass; up to this point Professor Radicke has all our good wishes. Unfortunately, however, he now indecently assails the private character of Dr. Beneke,—a sure sign of a weak cause,—and throws out ugly hints that "his manner of living whilst at Wangeroge was different from that at Oldenburg;" that "he made fuller dinners, took supplementary breakfasts, and, *above all*, drank more wine;" finally, and very sarcastically, that the metamorphosis of his tissue was very much influenced by "*the stimulus of greater social intercourse*," and, consequently, that those self-sacrificing urinary analyses, made in a sea-shore hotel amid the tinkle and tinsel of endless "hops," all go for nothing. This is cruel in Professor Radicke, and here he should have stopped; but, being in fine fighting-trim, he next gratuitously attacks a Professor Boecker for his experiments with sarsaparilla upon his urine, and proceeds very offensively to extract the root—not the sarsaparilla, but the square root, we mean—from his equations. Professor Boecker is a non-combatant; but it was not in the Teutonic nature of Dr. Beneke to stand such banter on his urine, made in a hostel by the sea,—by sunlight, by moonlight, by twilight, by gas-light, in a hostel by the sea. We are now about to enter upon thrilling events, which demand a new paragraph.

He at once cleared his decks, bore down on his assailant, and gave him a broadside of "Quadratic Means," "Square Roots," and "Equations."‡ These projectiles are certainly very effective upon the reader, even at very long range, but appear to drop harmlessly from the iron-clad hulk of Professor Radicke, who nails his colors to the mast and engages the enemy at close quarters. Victory is yet coy, when a certain—or rather, we should say, a very uncertain—Professor Carl Vierordt,§ of Tü-

* New Sydenham Society, vol. xi., from Wunderlich's Archiv für Physiologische Heilkunde, vol. ii, Part 2, 1858.

† On the Influence of Bathing in the North Sea. Göttingen, 1855.

‡ A Reply to Professor Radicke's Paper "On the Importance of Arithmetic Means."

§ Notes on Medical Statistics: Archiv für Physiologische Heilkunde.

bingen, attracted by the noise and smoke, mysteriously glides on the scene. He manages to draw Radicke's fire partly on himself and partly upon his tender, an unfortunate doctor named Kaupp,* another genial urinary professor, who spends his vacations in making "a series of investigations on the urine in his physiological laboratory," and who "for eighty-seven days" lived on "ham-sausages," in order to see whether his urine would become briny by this diet. Think of that, gentle reader! three months on "ham-sausages" for no other purpose than to solve the problem whether he could convert his kidneys into lachrymal glands and his urine into tears! Alas, poor Science! poor Science! what have not thy votaries done in thy name! "Ham-sausages"! faugh! Ho, boy! fetch hither a lemon, with bivalves the half-shell upon, and hark'ee, a word in thine ear: forget not a pot of small beer. But we are rambling.

Now, however neutral the salts of the North Sea may be, its waters are evidently not so considered; for a dreadful combat ensued between the above-named professors, in which were used all the offensive and defensive Means known to science, except the Harmonic. Having artfully wrought up the interest of the narrative to white heat, let us pause for a moment to take a calm survey of the situation.

From the time of Bacon the *inductive* method had been used for the interpretation of medical observations. It collected facts, grouped them, analyzed them, and compared them without necessarily summing them up. It appealed to the "logic of facts" rather than to their *number*. To borrow the words of Trousseau: "In a word, in opposition to the *numerical* method, it puts as much of its own as it possibly can into its interpretation of facts, well assured that by so doing it will approach more nearly to the truth."[†]

In the year 1767, according to M. Arago, astronomers first began to apply the *calculus of probabilities* to the solution of certain mysterious perturbations in the solar system, and thus, with the prophetic eye of science, to forecast the orbits of unseen planets. By the *calculus of probabilities*, Newton from a falling apple, and Galileo from an oscillating lamp, worked out great master-laws.

Stimulated by such magnificent discoveries, the French Academy of Sciences, in 1835, warmly but fruitlessly discussed the feasibility of adapting figures, and especially this calculus of probabilities, to therapeutic research. Five years later Jules Gavarret‡ took up the cudgels in favor of the *numerical method*, as it was called, of interpreting medical facts, which took statistics for its basis and sifted them by the calculus of probabilities. His method "recognized the sovereign power of figures," but, involving as it did algebraic equations beyond ordinary habits of thought, would have died with its advocate, had not Parent-Duchâtelet§ taken

it in hand and adapted it with great zeal to the study not of pathology nor of therapeutics, but of hygienics. At first blush an appeal to figures and statistics looks fair enough, for figures in the abstract do not lie; but when these figures represent *medical facts* which are not *facts*, of course they are not to be implicitly trusted, even when the logic of the calculus of probabilities is invoked. For if x is to be determined from a , b , and c , or from any other letters of the alphabet which in medical research will always represent uncertain terms, it stands to reason that one may play any number of mathematical tricks on such an equation; he may raise it to the billionth power, or degrade it to the most vulgar and improper fractions, and yet the result x will always be an uncertain quantity. *Nihilo nihil*; from uncertain medical facts no certain truth can be worked out by the most adroit mathematician,—not by La Place,—not even by Sir Isaac Newton, who interpreted several very stubborn apocalyptic prophecies by the calculus of probabilities.

It appears, then, that the unpleasantness which sprang up between Dr. Beneke and Prof. Radicke, and into which several other professors were dragged, hinged upon the question whether the phenomena of tissue-metamorphosis are not better interpreted by the physiological tact of the observer and by the inductive knowledge acquired from carefully-conducted observations, than by the arithmetic means of numerous statistical inquiries, or the calculus of probabilities. In other words,—to put it more neatly,—whether we are to address our remedies for Smith's sore throat according to the pathological condition of his pharynx, to his (Smith's) general hygienic status, and to the character of the prevailing sore-throat epidemic, or whether according to a balance struck between a series of sore-throat statistics, involving numerous percentages of deaths and recoveries, and certain prescriptions long preserved in the Smith family and consecrated to the Smith sore-throat.

The point at issue, the reader will observe, was a solid one, and was solidly met by the combatants, whom we left hammering away at each other, and to whom it is high time to return. Now, as we have a modest shyness of displaying our mathematics, and utterly despair of ever giving even the gist of their arguments without resorting to fluxions and to the mulberry—bah! we mean the differential calculus, we are left no alternative but to describe the whole encounter upon the question of the arithmetic means in such nautical language as a familiar acquaintance with ferry-boats will permit; and we do this the more cheerfully because the average reader (we here allude to each one of our *non-subscribers*) will thereby get a clearer insight into the merits of this difficult question than he could by wading through the work itself.

After playing at long-bowls for some time, the combatants beat to quarters and grimly closed. Kaupp pluckily steered alongside of Radicke and blazed away with his "ham-sausage" analyses, but he was raked fore and aft and silenced in a jiffy by a broadside of double-shotted arithmetic means from Radicke's port

* Investigations on the Dependence of the Amount of Chloride of Sodium in the Urine upon that in the Food.

† Lectures on Clinical Medicine, New Sydenham Society, 1869, vol. ii.

‡ Principes généraux de Statistique médicale.

§ De la Prostitution; Notice sur sa Vie, etc., par F. Leuret.

batteries, who in turn got his best starboard guns dismounted by Beneke's steady fire with the "logic of facts." He also received several percussion retorts just abaft the mizzen-chains, which let in daylight and considerable brine. Under a press of canvas, Vierordt bore down in splendid style to his "young friend" Kaupp's aid, and poured in a withering fire of adjectives and several skylarking calculi of probabilities; but Radicke took the wind out of his sails, and by a well-aimed quadratic unshipped his rudder-pintle, making him steer wildly. Running foul of Kaupp, he carried away his "young friend's" poop-deck, spanker-boom, and ensign-halyards. Of course Kaupp's flag bolted away from the gaff, and it was thought he had struck; but he defiantly ran up a link of sausages at the fore, shook out the reefs in his topsails, and sullenly sailed out of range. Early in the action, Boecker—Sarsaparilla Boecker he was nicknamed in the squadron—squared away and showed a clean pair of heels, for which he ought to have been court-martialled and shot; but that is neither here nor there. Cursing his cowardice, that gallant fellow* Beneke showed his grit, like a true Marburger. Wherever the arithmetic, the geometric, the successive, and the quadratic means flew the thickest, he was *there*, handsomely serving his guns long after his bulwarks were torn into toothpicks. Twice he took fire, and once, with his trusty Wangeroge in one hand and a double-barrelled Oldenburg in the other, he drove back Radicke's boarders, who swarmed on his spar-deck like hornets.

Time—what will not time subdue?—and a lack of ammunition at last put an end to hostilities, the last shot being fired by Radicke as he slowly drifted away from his brave antagonist. Now, after all this blaze, this smoke, this noise, this crashing of spars and riddling of hulls, pray, what was the result? A drawn battle, with no prizes, and no results other than that the combatants mutually hauled off for the nearest port, in a more or less crippled condition, and with much water in their holds. There we will leave them for repairs, eager to resume the fight, as we shall the subject, at an early day.

BEHAVIOR OF MEDICAL STUDENTS.

THE behavior of some of the London medical students appears to be no better than that of their less cultivated brethren in other portions of the world. The last Introductory at Guy's Hospital was the occasion of a most disgraceful outbreak. Screeching, cackling, baaing, yelling, singing of popular songs, etc., contributed to swell the uproar which utterly drowned out the voice of the professor; but these harmless amusements were laudable, compared with the knocking off and demolishing of visitors' hats with walking-sticks, and the showers of spitballs, peas, explosive pellets, etc. which greeted the professors and their friends, especially those whose bald heads offered conspicuous targets. The scene was made more ludicrous by the course of

the lecturer, who told his audience that he had his lecture packed up ready for the press, and that they could read it in the papers, and then described his own student-days at the German universities, with their duelling, their beer-parties, and other peculiar rowdyisms.

We do not remember ever to have seen anything like this in our own country. During the intense excitement just before the breaking out of the war, we indeed once saw the lecture-room in an uproar, but it was the uproar of angry civil strife, when every one was on his feet,—when men were already commencing to fight,—when knives were out and the air was full of curses. We well remember how one of the professors rushed among the students in his shirt-sleeves, and, with stentorian voice and wild, imploring gestures, stilled the tempest just in time to prevent bloodshed.

"THE GOLD-HEADED CANE."

UNDER this odd title, the history of the lives and times of five of England's illustrious physicians—Drs. Radcliffe, Mead, Askew, Pitcairn, and Baillie—was given to the world in the year 1828, the authority for its accuracy being nominally a gold-headed cane successively carried by these medical worthies. There are thousands in the profession at the present day endowed with a taste for the nicer walks of literature, who have not degenerated into mere practitioners,—“only this, and nothing more,”—that would be deeply interested in perusing such a book as the one referred to. To these it must be a matter of real regret that so little has been done recently—we may safely say for a quarter of a century past—to increase the general fund of knowledge of medical biography and bibliography, medical history, and professional anecdotes. We are favored, to be sure, occasionally with fragmentary biographical sketches of individuals who have died or become in some way conspicuous, and one or two bibliographical treatises have emanated from the hands of venturesome medical authors or compilers; but the anecdotes of medical men we see recorded are seldom either amusing or worthy of the men of whom they are told. The high-toned medical periodicals of the day are too much absorbed in solid reviews of new works or in striking original essays to indulge in retrospective glances at men and things as they were. It might seem, too, beneath their dignity to descend to anecdotal sketchings, interesting as these might be. Then, again, the demand for practical books is so great that book-publishers hesitate to incur the pecuniary risk of issuing works that will not be sought with avidity by the medical public at large. The consequence is that the great body of the medical profession remains in lamentable ignorance of its own progress and history, and of the social and personal qualities that have illustrated the characters of its own teachers and disciples. Are we doomed to wait for the return of a fashionable gold-headed cane mania for another favorable opportunity to cull the choicest *ana* of medical literature?

* He was a Fellow of several learned societies.—ED.

TRANSACTIONS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

A CONVERSATIONAL meeting was held November 23, 1870, at 8 P.M. Dr. Atkinson introduced the subject of puerperal convulsions, he having encountered two formidable cases recently.

November 16, 1870, at 2 A.M., he was called to meet Dr. Stewart in consultation in the case of Mrs. W., aged 21 years, a primipara, in eighth month of pregnancy. The premonitory symptoms were not well marked. She had been unusually active, and was stooping to raise a tub at about 5 P.M., when she fell in a convulsion. Purgation was attempted unsuccessfully by means of calomel and injections; blood was taken freely, yet the convulsions continued. She was delivered about 3 A.M. of two large male children by means of the forceps. Convulsions recurred in about an hour, but in a modified form. Chloral was then exhibited in fifteen-grain doses every two hours. Its effect was marked, after the third dose, by a quiet sleep. On the 18th she became conscious, and appeared about to make a rapid recovery under the use of tonics and stimulants, at the same time taking mass. hydrarg. with quinine and opium. On the 20th she suddenly commenced to sink, and died on the morning of the 21st.

About three months previous he was called to see a case with Dr. Patterson, where the convulsions had continued from 5 A.M. This patient was about 18 years old, a primipara at full time. He saw her at 9 P.M., in a dying condition. Nothing remained but to accomplish the delivery, as the treatment had been all that could be desired. She expired nearly half an hour before the child could be extracted.

In 1857 he had encountered a case, a strong, heavy-built Irishwoman, a primipara at term. Although it was a hot day in July, she had been freely plied with hot whiskey punch. Delivery of twins was accomplished at 5 P.M., after a long and tedious labor from 9 A.M. A powerful convulsion occurred as the placenta was being extracted, which was quickly controlled by the anæsthetic effects of ether. A typhoid condition set in, and she expired on the twelfth day.

Dr. Morris, in the course of some remarks upon obscure abdominal tumors, mentioned a case which occurred recently in the female medical ward at the Episcopal Hospital. A tumor appeared in the left side between the crest of the ilium and the inferior ribs, which was found (the patient being examined under the influence of ether) to be too high for an enlarged ovary, and, from the clearness on percussion above it, and its mobility, was evidently not splenic. It was therefore probably either mesenteric or fecal. After the administration of a castor-oil mixture (ol. ricini f $\overline{3}$ ss in f $\overline{3}$ vi of mucilage, syrup, and tr. card. comp. with sufficient tr. opii to prevent rapid action and griping—dose, a dessert-spoonful every hour), hard, dark masses were passed from the bowels, with diminution of the tumor and great relief to the patient. But these fecal accumulations may occur in any part of the colon, and then be mistaken for scirrhus, or even for aneurism. In another case of a woman recently in the wards of the same institution, there was a tumor 2½ inches in diameter in the right iliac fossa; the patient complained of a constant throbbing pain, and there was tumultuous action of the abdominal aorta, with marked *bruit*. The large vessels of the abdomen are apt to pulsate strongly and give a ringing sound from the presence of a tumor in the abdomen; this is probably owing to reflex irritation of the fibres of the sympathetic distributed to their coats. In this case, tumor, excessive pulsation, and *bruit* all disappeared after the action of the above mixture: about ten days subsequently there was a recurrence of the symptoms, which was promptly relieved in the same manner, and the patient was discharged subsequently, cured. In another case, which had come under his observation a year or two since, there had probably been a fecal accumulation in the sigmoid flexure some months previously to his seeing her, which had disappeared under the use of aloetic purges which produced violent straining. There remained deep-seated pain, and a small tumor a little to the right of and above the umbilicus, which pulsated strongly and gave

an aneurismal *bruit*. Dr. Da Costa, who saw the case with Dr. M., agreed in referring it to the aorta or one of the vessels of the celiac axis, but thought there was arteritis rather than dilatation. She was kept in a recumbent position, with considerable amelioration of her symptoms. Some time after, while she was in the country, obstruction of the bowels again set in. The same mixture was prescribed by letter, with instructions to telegraph if not promptly relieved. In a day or two a telegraph came, *sic*: "Obstructions on grand trunk line removed, and delayed freight forwarded." About ten years ago he had been requested to see a young lady, the daughter of a physician in a neighboring town, who was supposed to be dying of peritonitis. On careful examination, he diagnosed the case as one of typhilitis, due to the presence of feces or some foreign body in the appendix vermiformis,—an opinion which was stoutly opposed by three other physicians present, on the ground that the patient had diarrhoea. However, the castor-oil mixture, and a poultice to the abdomen, were tried, and in two or three days hardened feces, pus, and a cherry-stone came away, and the patient rapidly convalesced.

Dr. Wm. H. Pancoast spoke of the anatomical relations of the solar plexus of the sympathetic, and the fact that its ganglia are the largest in the trunk, and second only in size and importance in the nervous system to the brain. It is really the organic brain of the abdomen. As it controls all the organic functions of the abdomen, any viscus of that region, being seriously disordered, may produce altered functions in other organs of the abdomen, from the disturbance being reflected to the solar plexus, and thence forward to some other part. Owing to the connection of the semilunar ganglia with the thoracic sympathetic through the splanchnic nerves, any undue disturbance of the solar plexus, reflecting this impression to the thoracic ganglia, may so disturb the general sympathetic ganglia as to produce functional disorder of the heart through the cardiac nerves, which connect the cardiac plexus with the sympathetic nervous system. The heart cannot be functionally deranged, as by palpitation, without disturbing the pulmonary circulation; and he believes that he has prevented consumption by attending to this fact, relieving the disturbed sympathetic nervous system, and thus controlling and relieving the undue action of the heart.

Dr. Turnbull spoke of a diphtheritic condition of the bowel. In one case which he had seen, the fecal matter was washed upon a sieve, and true diphtheritic substance was detected, the nature of which was confirmed by microscopic examination. In this case ordinary remedies seemed to fail.

ACADEMY OF NATURAL SCIENCES.

A SEMI-MONTHLY meeting of the Biological and Microscopical Section of the Academy of Natural Sciences was held November 7, 1870, Vice-Director Wm. Pepper in the chair. Present, nine members.

Dr. J. G. Hunt presented the following report in regard to the dust-shower in Vermont, which was accepted, the committee discharged, and the corresponding secretary directed to forward the same to the authorities at the Smithsonian Institution:

"The committee to whom the dust sent by Mr. H. A. Cutting, and said to have fallen from the air in Vermont, February 12, 1870, was referred for examination, make the following report:

"The dust was alkaline in character, as proved by effervescing under the action of an acid.

"On microscopical examination we find as follows:

"1. Much granular amorphous matter.

"2. Many round or oval granules, perfectly transparent. These disappear when treated with nitric acid; it is probable, therefore, that silica forms no part of their composition.

"3. Spores of fungi or gonidia of some lichen.

"4. Diatoms.

"5. Fragments of vegetable cells, too imperfect for identification.

"6. Cells of coniferous wood, of the genus *Pinus*, having the peculiar deposit characteristic of these cells absent in spots.

"7. Other cells of coniferous wood, with smaller markings than those of the pine; few dots in a row, and two parallel

rows in each cell, and the cells terminating transversely and not obliquely as in the pine.

"8. Many cells of an Alga resembling red snow, or *Protococcus nivalis*, or *Palmella cruenta*, or *Porphydium*, as the unfortunate plant is now called. These cells were at the stage of binary subdivision well known in that Alga.

"We see no reason to doubt that this dust is the ashes of some burning forest, which has been sifting the higher regions of the atmosphere with its microscopical fingers, gathering in its transit some recognized organisms and many we could not identify. The distance it may have travelled we cannot measure, nor is it important.

"To the action of the winds Linnaeus ascribes the 'importation into Europe of the *Conyza crerulea* of Canada which now infests the north of France.'

"Certain lichens from the mountains of Asia, taken up by whirlwinds, travel among the clouds, and, imbibing watery vapor upon the journey, grow during their peregrination, until they fall at vast distances from whence they started. 'This rain of plants sometimes forms in those places a layer five or six inches deep. Men feed upon them, and what they cannot consume is given to the cattle.' We have been told by aeronauts that they have seen thistle-seeds floating above the clouds. If these heavier bodies have been carried vast distances, it is not improbable that this fine dust may have followed a devious and far-distant path.

"Your committee would request Mr. Cutting to send to this section a copy of his paper on Dust-Storms when completed. "All of which is respectfully submitted."

(Signed) DR. J. G. HUNT,
DR. WM. B. CORBIT.

Dr. James Tyson inquired of Dr. Hunt whether the effervescence with acid did not indicate that the dust was composed of carbonates; to which question Dr. Hunt replied in the affirmative.

JOSEPH G. RICHARDSON, *Recorder*.

TRANSLATIONS.

UGHT CONSUMPTIVES TO MARRY?

IN the widest and only true view of man's nature, the physical and the psychical are always related, and are often inseparable. The highest morality and the most perfect intelligence cannot be dissociated from an equally high and perfect condition of the animal organism. Whatever modifies health must, in a greater or less degree, affect both mind and morals; and, reciprocally, the soul can rarely be disordered without physical deterioration. Other things being equal, a strong race is a virtuous race; and the converse is equally true. Whatever tends to create or to perpetuate physical infirmity tends likewise to the moral deterioration of society, and to the ultimate extinction both of the virtues and the very existence of the race. As nations are organically constituted by families, and these by individuals, so does the physical and moral health of the units determine that of the aggregate. In this view marriage becomes a very solemn responsibility. Our fathers, wiser than their posterity, strove to render this act a deliberate and solemn one by a religious sanction. The conclusions of modern science have justified their laws and corroborated their motives, and more than ever demonstrated the serious accountability of those who, in contracting this tie, assume a grave responsibility not only towards one another, but towards society and the state. It has been demonstrated that the marriage of persons actually diseased, or who inherit morbid predispositions, not only inflicts misery upon themselves and shortens their lives, but also creates a heritage of woe for generations, it may be, of descendants. Insanity,

syphilis, scrofula, and tuberculosis are thus voluntarily made agents for corrupting society at its very source. Among these evils, one has recently been discussed by so high an authority that we feel constrained to bring his views to the notice of our readers, in the hope that they may be led to use their influence in staying an evil which arises out of a sheer ignorance or a culpable disregard of the laws of health and disease.—[Ed.]

IS IT PROPER FOR CONSUMPTIVES TO MARRY?

BY DR. F. A. HARTSEN.*

THIS is a complex question. Many, considering the hereditary transmission of phthisis, will answer in the negative. Yet it is certain that successful love, by enlivening all the functions, must contribute to cure the sick, while disappointed affection may readily induce a fatal result, and thus bring misery not only upon the party immediately interested, but also upon others. Now, I ask, is it allowable to imperil the lives of several persons on account of children who may or may not be born? There is no law by which the children of consumptives necessarily inherit any pulmonary disease, and, still less, consumption. But, even if the inheritance were inevitable, it should be remembered that death must arrive sooner or later, either by consumption or from some other cause. Now, it cannot be assumed that a consumptive is necessarily less fortunate, less estimable, less talented, or less useful, than other men; and we therefore cannot perceive any reason why his lot should be rendered more unhappy than his neighbor's. If none but valid men should marry, the world would come to a pretty pass. Besides, it is not to be forgotten that the therapeutics of phthisis are improving, and our children will advance them more than we have done. Before the offspring of such marriages become liable to the disease, many a discovery may be made that will render the disease more tolerable and less destructive. Moreover, consumptives escape certain dangers to which strong men are exposed,—death in battle, for instance. It is often assumed that sexual relations are especially exhausting to consumptives, and that they are bound to live a life of total abstinence from carnal indulgence. But this is an exaggeration. Sensible people will enjoy with moderation. Besides, sexual indulgence is less exhausting than certain persons, who have concluded that the grapes are sour, would have us believe. Married people often grow fat, and do not commonly look weak and ailing.

To this plausible argumentation Professor VIRCHOW replies:

Although unused to answer articles published in my *Archives*, I must here make an exception, because the question mooted by Dr. Hartsen demands the most careful judgment, and because even the opponents of truth ought not to be silenced. The answer to the question propounded by him will be diversely answered by a consumptive and by a healthy man. The former, quite independently of the fact that persons of a weak and nervous temperament are prone to sexual pleasures, will reply in the affirmative. He will reason after the fashion of Dr. H., and possibly even go so far as to subordinate the question of marriage and of family to the desire for sexual indulgence. Passion overrides judgment: even a consumptive who is also a physician may not be proof against its delusions. I well remember one of our most accomplished morbid anatomists, who belonged to a tuberculous family, and had, indeed, lost his father and two brothers by consumption. While still a young man he fully resolved never to marry. Nevertheless his time and fate overtook him: he married; and before a year had passed, an acute attack of the disease put an end to his life. As men, let us judge not, lest we be judged; but as physicians, let us not be guided in this matter by consumptives, even although they happen to be physicians. However we may dissuade from sexual indulgence and from marriage, there will be consumptives enough to make light of our judgments. We cannot and we will not proclaim an interdiction, but shall fulfil a moral duty when

* *Virchow's Archives*, Berlin, 1870.

we raise a warning voice and dissuade from a course of conduct which may become most disastrous to the consumptive, to his family, and to his posterity.

As regards persons of consumptive tendencies, it cannot be doubted that tubercle of the sequal organs of the male (testicles, vas deferens, prostate) most commonly occurs about the age of puberty and during the first years after the commencement of sexual relations, although I have occasionally met with it at an earlier age. On the other hand, I have seen consumptives of continent habits whose marriage became the signal for the development of tubercle of the prostate, etc. A similar fate, though more rarely, overtakes women after their confinement. I have repeatedly seen tuberculous endometritis directly developed by the puerperal state; and although this affection is less dangerous than tubercle of the prostate, yet it readily becomes associated with tuberculous peritonitis, and is therefore not to be made light of. I will not now attempt to decide how far blenorrhœal discharges from the sexual organs promote tuberculous development in them, yet I feel it my duty to remark that, according to my experience, a catarrhal affection may occasion the development of tubercle in them, just as pulmonary catarrh may induce it in the lungs.

But the question before us relates not only to tuberculosis of the genital organs, but also and mainly to the influence of sexual indulgence in hastening the course of the pulmonary disease or in provoking its relapse. For a long time the deceptive doctrine was preached that pregnancy and child-bed exerted a favorable influence upon the course of phthisis, and even upon the tuberculous predisposition. Grisolle and Dubreuilh, however, demonstrated the contrary; and while I, on the strength of numerous observations, am ready to acknowledge that this rule is happily not without exceptions, yet it must be admitted by every experienced physician that parturition involves great danger to tuberculous females. Let it also be considered that not a few women predisposed to consumption refuse, either from sentiment or from necessity, to deprive their infants of the maternal food, and that suckling is one of the most deleterious influences among those that determine the fatal downward course of phthisis.

Dr. Hartsen appears to have had more regard for wives than for their husbands. The men are emphatically advised to be prudent and moderate. But what chance has reason against the allurements of sense? A young husband has seldom the opportunity to be moderate, for the danger of marriage consists in the very facility of erring. And, in point of fact, nothing is more common than to see young men belonging to consumptive families perish in the first years of their marriage. How numerous are the young widows made by such espousals!

But Dr. Hartsen, it appears to me, estimates too lightly the dangers to which the children of consumptive parents are exposed. He rather suggests the hope that the marriage of such persons may be unfruitful. But no man marries expecting to remain childless. He comforts himself with the reflection that *all* the children of consumptives are not necessarily tuberculous. But in truth there are but few such whose health is not delicate, and who are not in danger at least of leaving to their own children the seeds of the disease, or a predisposition to it. And of these children how large a proportion die of phthisis! However, Dr. H. has at least this faith in the next generation, that it will rapidly advance in its knowledge of curing the disease.

I imagine I have contributed something to inspire this hope, in banishing the ghost of tuberculosis which haunted a goodly number of consumptives, and especially of persons affected with pulmonary phthisis. Many a case of chronic bronchitis, and many of caseous pneumonia, is curable, merely because it is not tuberculous. But it cannot be assumed that all consumptives are tuberculous, and that caseous pneumonia creates no heritable tendency. In my judgment, medicine will never attain to the complete cure of consumption; and therefore it is a sorry consolation to one's self and family to bid them confide in the therapeutics of the future.

Not long ago, and soon after one another, two anxious fathers, in both of whose families consumption had inflicted cruel bereavements, consulted me respecting the proposed marriage of their children. On this, as on other similar occasions, I advised that the young persons should be fully in-

formed of the danger they incurred, and that they should then be allowed to decide the question on their own responsibility. In my opinion, that is the very last limit of concession which a physician ought to yield. In former times lepers were forbidden to marry; but the more humane spirit of our age forbids such constraint. Yet we are as little warranted in advising consumptives to marry, as those who have a hereditary tendency to insanity.

CORRESPONDENCE.

NOTE ON ADIRONDACK MINERAL WATER.

BY JOHN BELL, M.D.

THE experience already obtained should authorize us to give this water place in the *Materia Medica* as a diuretic and alterative of undoubted therapeutical value. Its curative powers have been realized most conspicuously in disorders of the kidneys and bladder, including calculous deposits and the so generally intractable albuminuria and diabetes. Some of our Philadelphia practitioners—Drs. Agnew, Da Costa, Morton, and Wallace, and myself—have expressed their satisfaction with the diuretic operation of the Adirondack water, and in some instances its action was so powerful as to require a suspension of its use. Dr. Wallace looks on this water as our best diuretic; he gave it with entire success in a case of obstinate subacute rheumatism accompanied with anæmia and great prostration. In one of Dr. Agnew's cases the patient suffered from albuminous and bloody urine, which was also scanty in quantity, ropy, and offensive. Recourse was had to the water, and in thirty-six hours the urine became copious and free from mucus, and two small calculi were discharged. Dr. A. was equally successful with this remedy in a case of rheumatism and in another of nephritic colic with bloody urine. Dr. Morton relates that "in a case of abdominal dropsy, not only was the fluid rapidly carried off, but the diuresis was so excessive that only a small amount of the water was prescribed. The patient has remained well ever since,—now over one year." Dr. M. has also directed the use of the water with good effect "in the bladder-troubles of old men."

The Adirondack Mineral Spring rises in Whitehall, in the State of New York, at the head of Lake Champlain. Its name is derived from its issuing from the base of one of the spurs of the Adirondack Mountains. The temperature of the water is 52° F. Its saline constituents are carbonates of lime, magnesia, soda, and potassa, with traces of manganese and lithia; also sulphate of lime and chloride of sodium. There seems to be a general concurrence of opinion among the physicians of Whitehall in favor of the remedial powers of the water of this spring. Dr. Shumway regards it as stimulant, tonic, and diuretic, and producing, in excessive doses, headache, giddiness, oppression of the stomach, and irritation of the urinary organs. He speaks of its very decided efficacy in chronic rheumatism, and also in all chronic cutaneous eruptions. Two cases of diabetes mellitus are reported by Drs. Long and Bennett, cures of which were brought about by the use of this water. Dr. Long prescribed it in Bright's disease with the happiest results. Instances are related of speedy and permanent relief obtained by drinking it in cases of gravel, of difficult and painful micturition, and even of retention so complete that a catheter had to be introduced. Satisfactory results have been procured by the use of this remedy in atonic dys-

pepsia and chronic diarrhoea and dysentery. The large proportion of iron—five grains of the carbonate in a gallon—in the Adirondack water would indicate its use in a large number of diseases in which anæmia and general debility prevail. We might be equally hopeful of benefit from the same remedy in nervous disorders,—hysteria, hypochondriasis, and chorea. The ordinary dose of the water is from six to eight ounces, three times a day, to be increased or diminished according to circumstances.

REVIEWS AND BOOK NOTICES.

A HANDBOOK OF MEDICAL MICROSCOPY. By J. G. RICHARDSON. Philadelphia, J. B. Lippincott & Co.

This book owes its existence, the author tells us in the preface, to the fact that while the medical profession is daily growing more and more conscious of the practical advantages which result from the use of the microscope, there does not as yet exist any work which satisfactorily considers the subject from this point of view. How far a book of this nature is valuable is a question which our limits will not permit us to discuss. Compend and short cuts to learning are and will be demanded so long as our present system of medical education prevails; and it is by the existence of this want that Dr. Richardson justifies the publication of his text-book. To fulfil this indication, however, requires faculties of no mean order; for the essential elements for success must embrace a well-organized plan in the development of the subject-matter, a clear and concise style, an avoidance of all mooted points of discussion, and, above all, a perfect familiarity with the practical manipulation of the instrument. In reply to the question, How far does this book answer these requirements? we are compelled to say that, so far from restricting himself to the safe but tame development of facts, the author at times most unexpectedly enters upon the discussion of themes which tax to the uttermost the intellect of men who have devoted their lives to the study of these questions: thus, on one page we find the student busy in learning how to color the nuclei of a group of cells lying "southeast of the angular corner" of his slide, while in the next he is deep in the consideration of disputed cell-walls, and is soon to attack the question of the identity of the salivary corpuscle with the white blood cell, Cohnheim's theory of inflammation, and Hallier's speculations on the germ theory of disease. The style is diffuse, the sentences are involved, and the attention is distracted from the questions at issue by numerous digressions. The author assures us that he devotes many hours daily to the use of the microscope: so that we are constrained to regard the errors which he has made in the description of the instrument as mere oversights, which will undoubtedly be corrected in the next edition of the work. Let us, however, leave generalities, and, as the brief limits of a review forbid any extensive discussion, select one chapter for a more critical examination.

The blood is the fluid which first claims the attention of the young microscopist; and, as it is owing to his observations in this field that Dr. Richardson is best known to the profession, it offers, perhaps, the most suitable chapter for discussion. The red blood discs are, according to the author, to be regarded as "membranous bags filled with colored fluid." This view, so at variance with the teachings of all modern histologists, is advanced without an argument to support it, except a reference to "some remarkable specimens" of the dried blood corpuscles of the Menobranthus, "containing one or more crystals upon whose points was propped out the colorless cell-wall." In vain, then, have the laborious researches of Brücke and Stricker been made on the *living* blood-cell, its reaction when exposed to countless reagents minutely investigated, the phenomena observed which followed its exposure to the action of the electric current, the changes in shape after the operation of heat, carefully recorded by Max Schulze,—all these, and other experiments too numerous to mention, which have led these accurate observers to the conviction that a cell-membrane

does not exist, have, we repeat, been made in vain, for Dr. Richardson has some "remarkable specimens," and the "busy professional man" must accept without doubt the existence of a cell-membrane. This enveloping membrane is again invoked by the author when considering the white blood corpuscle, utterly ignoring the fact that some of the most brilliant discoveries of the last decade, so fruitful in the annals of histology, are due to a strict adherence to the necessity of demonstrating the presence of a double contour before admitting the existence of a cell-membrane. But why complicate thus needlessly questions already so intricate? Why render so difficult the investigation of such phenomena as the contractility of the white blood corpuscle, its power of passing through the walls of vessels, of taking into itself particles of coloring-matter, fragments of red blood discs, globules of milk, etc.? Because Dr. Richardson has discovered its identity with the so-called salivary corpuscle, which he has previously described as provided with a membranous envelope. This question of identity is too extensive to be discussed here. Suffice it to say that the latest and best observer (Pflüger) denies the existence of *any* morphological elements in the pure saliva, while another recent writer (Frey), admitting their existence in the salivary fluid as taken from the mouth, seeks their origin in the tonsils and glands of the tongue. In speaking of leucocythæmia the author describes enlargement of the spleen or lymphatics as a "complication," and states that the liver is affected in sixty per cent. The word "complication" is certainly calculated to give a wrong idea to the student, the development of leucocythæmia being directly dependent upon and caused by the hyperplastic growth of the tissue of these organs, which gives us the two forms of the disease, viz., the splenic and lymphatic, while the occurrence of lymphoma in the liver (and kidney, the author might have added) is, comparatively speaking, rare, and is to be regarded as a heteroplastic process, secondary in character, and due to infection by the blood or lymph. This brings us to the statement that "If cancer cells are carried by the blood to distant organs, it is so rare that the fact is probably devoid of practical importance." So far from this being true, all the recent writers insist on the necessity of admitting this mode of contagion, and Waldeyer's late work on cancer, extending the well-known views of Thiersch on canceroid growths to the whole class of carcinoma, demands this theory as the postulate of its existence. The definition of adenoid tissue, as quoted from Ranvier, rests altogether upon a misunderstanding of the term, which was first used by Hiss to describe the delicate network of star-shaped connective-tissue cells which supports the lymph corpuscles: hence this tissue cannot be defined "as a network of enormously dilated capillaries containing aggregated white blood corpuscles."

In conclusion, we can but regret that the author of this book had not more carefully and thoroughly worked over the subject-matter before giving it to the world. We have expressed our opinion in regard to its deficiencies somewhat in detail, because we are unwilling that the work should be accepted abroad as a fair exponent of the state of microscopical science in America or in this city. For it is the publication precisely of books of this class which justifies the indifference with which our scientific work is so often received in Europe, and especially in Germany, where, by a careful and rigorous examination of every possible source of error, experimental physiology has celebrated its most brilliant triumphs.

THE PATHOLOGY AND TREATMENT OF VENEREAL DISEASES: including the Results of Recent Investigations upon the Subject. By FREEMAN J. BUMSTEAD, M.D. Philadelphia, H. C. Lea, 1870, pp. 704.

The position already attained by this work as the best monograph on venereal diseases in the language is ably sustained by its third edition. Good wine needs no bush, nor does Bumstead on Venereal ask for commendation at our hands. We will content ourselves with pointing out some of the more striking differences noticeable between this and the last edition. The size of the volume is increased by sixty-four pages, notwithstanding the author's attempts at compression of some and omission of other portions, especially "when relating to subjects now fully established and no longer controversial."

The section on treatment of permeable stricture has been almost entirely rewritten. That by caustic is dismissed in a paragraph of condemnation, while that of rupture and urethrotomy is dwelt upon and approved. The filiform bougie is placed at the basis of all attempts to overcome a stricture; the instrument in position serving as a guide to the subsequent insertion of the catheter, urethrotome, or dilator. Professor Gouley's cumbersome term of "external perineal urethrotomy" replaces the more familiar "perineal section," though, we think, with little likelihood of its being generally adopted. Syphilization meets with no favor, the author pronouncing it a treatment not to be recommended. The subject of venereal syphilis, thanks to the labors of Continental observers,—more particularly to Fournier and Lancereaux,—has been so extensively elaborated during the past ten years as to necessitate a complete revision of the section treating of this most interesting and important subject. Nothing is said of the involvement of veins in syphilis. The cases reported by Girdwood (*Lancet*, 1860, i. 619), occurring, as they did, in military practice, where good facilities are afforded for observation, and resting upon three distinct expressions of the secondary form of the disease, appear to us to be worthy of notice.

The work is furnished with many additional wood-cuts, chiefly in illustration of improved patterns of instruments: the catheter scale giving the equivalents of French and English instruments being one of the most important of these.

BOOKS AND PAMPHLETS RECEIVED.

A Statement of the Case of the People *vs.* Elisha B. Fero. By C. H. Porter, M.D., of Albany. (From the *Journal of Psychological Medicine*, April, 1870.) 8vo, pp. 48. New York, Appleton, 1870.

Body and Mind. By Henry Maudsley, M.D. 12mo, pp. 189. London, Macmillan & Co., 1870.

GLEANINGS FROM OUR EXCHANGES.

MICROSCOPIC OBJECTS FOUND IN CHOLERA EVACUATIONS.—The *Lancet*, November 26, 1870, gives a summary of the official report of Assistant-Surgeon Lewis, who was specially detailed to visit India, with the object of investigating the hypothesis of Prof. Hallier, of Jena, and others, as to the fungoid origin of cholera, and the theory of the connection existing between cholera and certain conditions of the soil, promulgated by Prof. Pettenkofer, of Munich. It is as follows: That no "cysts" exist in choleraic discharges which are not found under other conditions. That the cysts or "sporangia" of fungi are but very rarely found under any circumstances in alvine discharges. That no special fungus has been developed in cholera stools, the fungus described by Hallier being certainly not confined to such stools. That the still and active conditions of the observed animalcula are not peculiar to this disease, but may be developed in nitrogenous material even outside the body. That the flakes and corpuscles in rice-water stools do not consist of epithelium nor of its debris, but their formation appears to depend upon the effusion of blood-plasma; and that the peculiar bodies of Parkes found therewith correspond very closely in their microscopic and chemical characters, as well as in their manifestations of vitality, to the corpuscles which are known to form in such fluids. These are generally to a greater or less degree associated with blood-cells, even when the presence of such is not suspected, especially as the disease tends towards a fatal termination, when the latter have been frequently seen to replace the former altogether. Finally, that no sufficient evidence exists for considering that vibrios and such-like organisms prevail to a greater extent in the discharges from persons affected with cholera than in the discharges of other persons, diseased or healthy; but Mr. Lewis is unable to prove or disprove whether the vibrios, bacteria, and monads (micrococci) are peculiar in their nature, or whether they are able to give origin to peculiar phenomena in a predisposed person.

ANATOMY OF MOLLUSCUM FIBROSUM.—Dr. C. Hilton Fagge (*Medical Times and Gazette*, September 24, 1870) read a paper upon this subject, based on the results of the dissection of portions of the integument of a woman, aged 40, affected with molluscum fibrosum, who died at Guy's Hospital of another disease. Dr. Fagge and his colleague, Mr. H. S. House, made independent examinations of the tumors, and the conclusions arrived at are as follows: 1. That each tumor is originally developed round a hair-follicle, enclosing at the same time the sebaceous glands belonging to the follicle. 2. That the smallest tumors consist of two distinct elements,—a central glandular body, itself surrounding a hair, and a peripheral mass of very fine connective tissue, containing numerous minute oval nuclei. 3. That the glandular body is a sebaceous gland, enlarged by the separation of its sacculi from one another, and perhaps also by the actual multiplication and increase in size of the sacculi themselves. 4. That the peripheral mass of nucleated connective tissue is developed from the two external layers of the dermal coat of the hair-follicle and sebaceous glands. In conclusion, it is maintained that these investigations render the name "molluscum fibrosum" more appropriate than that of "fibroma molluscum" of Virchow and other German writers.

NEW TEST FOR CHLOROFORM.—A. W. Hoffman (*Monatsbericht der Königl. Preuss. Akademie*, Berlin, Juli, 1870) praises highly a new test for chloroform, stating that it is easy to recognize with certainty that substance when only .0002 per cent. is present in solution. The test depends upon the fact that on warming alcohol a monamine and hydrated soda isonitril is developed. The practical method of performing it consists in adding to the suspected liquid anilin or other primary monamine and an alcoholic solution of sodium hydrate, and warming slightly, when if chloroform be present the peculiar odor of isonitril will immediately betray it.

CALABAR BEAN IN TETANUS.—In the *London Practitioner* for November, Mr. Christopher Heath records a case of death from traumatic tetanus notwithstanding the apparently free use of calabar bean. Unfortunately, there is nothing in the record to show that the preparation used was physiologically active. A similar case is reported in the *Boston Medical and Surgical Journal* of December 15, and is open to the same objection.

PUERPERAL ECLAMPSIA (OTTO SPIEGELBERG: *Arch. für Gynäkologie*, vol. i.).—The theory of Frerichs, that puerperal eclampsia is caused by the retention of urea in the blood and its subsequent conversion into carbonate of ammonia, is again defended by Spiegelberg. In reply to the concluding sentence of Dohrn's paper on this subject,—viz., "This theory, certainly, does not hold good in all cases, and is questionably correct in any,"—he gives the detailed account of a case which occurred in the clinic at Breslau, where the presence of carbonate of ammonia in the blood was demonstrated by the most rigid chemical analysis by Gscheidlin, and also an excess of urea in this fluid, with its corresponding diminution in the urine. To confute the statement of Oppler (*Virchow's Archives*, vol. xx.) that the introduction of carbonate of ammonia into the veins of animals, while producing convulsions, was not followed by any symptoms of depression (sluggishness, tendency to sleep, coma, etc.), he made, in conjunction with his colleague Heidenhain, the distinguished physiologist, three experiments on dogs, in all of which, after the injection of carbonate of ammonia into the veins, symptoms exactly resembling those of puerperal eclampsia were produced, thus confirming the results obtained by Petroff (*Virchow's Archives*, vol. xxv.).

PHYSICAL EXAMINATION OF THE HEART IN CHILDREN.—ENDOCARDITIS (STEFFIN: *Jahrbuch für Kinderheilkunde*, vol. iii.).—The heart has a more horizontal position in childhood than in adult life, the apex-beat being felt in the fifth intercostal space, in the line of the left nipple, or even one ctm. beyond this point, without any deviation from health. The impulse is often perceptible over the whole limit of percussion dulness, without the existence of any pathological condition or nervous excitement. The veins of the neck become distended and visible even when the impediment to the free circulation of blood in the pulmonic system is inconsiderable, owing to the difficulty with which a compensatory dilata-

tion of the right side of the heart takes place in childhood. A systolic pulsation of the jugular veins, caused by a relative insufficiency of their valves, may occur even when the tricuspidalis is intact; so that this sign, of such positive value in the adult, is of but little importance in the child. Accidental murmurs are very common, and, owing to the compressible character of the thoracic walls, are often produced by too firm pressure with the stethoscope. The heart is displaced by large pleuritic effusions or pneumothorax, as in the adult; and when the left side is affected the heart is also pushed posteriorly away from the walls of the chest; as the exudation is absorbed, however, or interstitial pneumonia develops, it is drawn towards the affected side.

Steffin has rarely met with pericarditis in children, but endocarditis has occurred in numerous cases, as a primary lesion without articular rheumatism. The disease begins with fever, rapid and more especially powerful action of the heart, and is followed in a few days by increased area of dulness, with the development of cardiac murmurs. The temperature was very high in all the cases, in some reaching 42° C. A minute clinical history of four cases of endocarditis follows, in which the disease lasted several weeks and resulted in valvular lesions. The dilatation, mitral murmur, and accentuation of the second pulmonic sound disappeared entirely in two cases, while in the other two children, after the lapse of several months, these conditions could with difficulty be recognized after a careful physical examination.

THE USE OF THE CEPHALOTRIBE.—In the *Dublin Quarterly Journal*, November, 1870, p. 330, it is stated that Dr. Kidd has three times delivered with perfect safety one woman, the conjugate diameter of whose pelvis was little more than $1\frac{3}{4}$ inches. Dr. Braxton Hicks has applied it where there was not more space than $1\frac{3}{4}$ inches; whilst in Dr. Barnes' case the conjugate diameter was only $1\frac{1}{2}$ inches.

At the meeting of the British Medical Association (*British Medical Journal*, October, 1870, p. 358) Dr. Keiller stated that he preferred and had adopted the operation of cephalotripsy in contracted pelvis, "as he had found it to have advantages which craniotomy did not possess." At the same meeting Dr. Beatty "confessed the fact that it (the cephalotribe) was not so dangerous to life as the old practice of smashing up. In fact, the immunity of the patients on whom the cephalotribe was used was very great."

Dr. J. Braxton Hicks states (*ibid.*, October, 1870, p. 425) that, "unless I am much mistaken, the cephalotribe will be in future the principal instrument employed to reduce the size of the fetal head, not only in the extremely severe cases, but also in the less so." . . . "Also, with regard to its adaptability to actual practice, I can speak very satisfactorily from now a large experience—perhaps greater than that of any other British obstetrician—in the use of the cephalotribe."

HYSTERICAL RETENTION OF URINE.—Mr. J. Waring Curran (*Medical Press and Circular*) finds that this troublesome affection can be relieved by causing the sufferers suddenly to plunge their hands and arms into very cold water.

DURATION OF PREGNANCY.—M. Aubinais (*Medical Gazette*, September, 1870, p. 176; from *Journ. de Méd. et de Chirurg.*) cites the case of two sisters of irreproachable virtue, who on the same day were married to two sailors. At six o'clock the next morning the husbands were ordered away to their ship. On the two hundred and sixty-fourth day after their marriage the two women were brought to bed at almost the same hour and under the same roof. "The possibility of fecundation of a virgin by a single act of coition cannot, therefore, be denied, although it is an exceptional fact."

HOLT'S OPERATION FOR STRICTURE OF THE URETHRA.—In a communication to the Medical Society of London, November 14, 1870, Mr. J. D. Hill (*Lancet*, December 10, 1870) gave his experience in the treatment of urethral stricture by rupture. He had submitted one hundred and twenty patients to the operation, of whom two, the subjects of organic disease, died. His conclusions in reference to the procedure are as follows: that the operation is the most satisfactory method of treating any form of organic urethral stricture which is amenable to dilatation, and, with careful attention to preliminaries, there is no more risk in its employment than in ordinary catheterism; that when the latter is followed by bad symptoms, then Holt's operation is contra-indicated.

Its advantages are (1) promptness in dilating the contracted part to the normal calibre of the urethra; (2) immediate relief to the urinary organs; (3) immediate benefit to the patient's health; (4) freedom from chronic urethral discharge, so frequently excited by gradual dilatation; (5) it is attended with scarcely more pain than catheterism, and rarely with hemorrhage; (6) it is seldom followed by signs of inflammation; (7) it is well adapted to relapsing cases; and (8) is accompanied by a low rate of mortality, less, probably, than gradual dilatation.

MISCELLANY.

SPONTANEOUS COMBUSTION.—Another case of this kind is added to the list by Dr. Bertholle, in the *Union Médicale* of February 15, 1870. It was that of a woman of intemperate habits, thirty-seven years of age; the viscera and portions of the limbs were consumed, the clothes and hair escaping. As quoted in the *London Lancet* (we have not seen the original account), it would seem to have been a genuine case, the access of fire from without having been impossible.

THE WOUNDED IN PARIS.—Despite the enthusiastic and self-devoted efforts made for the accommodation and medical treatment of the sick and wounded soldiers in Paris, the supreme interest of the hour—the defence of the city against the Germans—seems to have impaired the efficiency of the preparations. We learn from our contemporaries of the great scarcity of some of the most necessary hospital supplies; of the entire insufficiency in the number of medical attendants in the infirmaries; and, worse than all, of the difficulty and delay at times experienced in securing attendance even upon urgent cases.

SIR WILLIAM LAWRENCE AND CHLOROFORM.—The *London Lancet* tells us that, at a meeting of the Edinburgh Royal Society, Prof. Christison made some remarks on the discovery of chloroform, which illustrate how nearly Sir J. Y. Simpson was anticipated in his introduction of this anæsthetic into practice. In the summer of 1847, a few months only before Simpson's discovery was announced, Lawrence had repeatedly used in practice an anæsthetic which came recommended to him under the name of chloric ether; and while he and his assistant were busily contriving how to concentrate their chloric ether, not recognizing the fact that it consisted merely of chloroform dissolved in rectified spirit, Simpson's discovery came forth and put a stop to their inquiries.

PRACTICAL PHYSIOLOGY.—We notice, with pleasure strongly mixed with envy, the fact that the arrangements are nearly perfected to secure the teaching of Practical Physiology in all the medical schools of London. The *London Lancet* announces, as a special attraction of the volume for the present year, the publication of the course of lectures on this subject to be delivered by Dr. Rutherford at King's College; and a similar announcement is made in the *Medical Times and Gazette* of a course by Drs. Burdon-Sanderson and T. L. Brunton. We heartily congratulate the London schools upon the establishment of these lectureships. The present state of physiological science, the requirements that are necessary to fit the student for original work in this branch, and the great success which has attended such lectures in France and Germany, alike demand their establishment in connection with every medical school. We trust it will not be long before an

effort is made in this city, and elsewhere in America, to remove this great defect in our system of physiological teaching.

DEATHS FROM SNAKE-POISONING IN INDIA.—Dr. Fayrer has obtained returns from a number of districts in India relative to the frequency of death from snake-bites in that country. The result is truly appalling. It appears that the mortality from this cause over parts of India equal to about half the area of Hindoostan amounts annually to 11,416 cases, made up of 6645 in Bengal, 1995 in the northwest provinces, 755 in the Punjab, 1205 in Oude, 606 in the central provinces, 90 in Central India, and 120 in British Burmah. Dr. Fayrer estimates the entire mortality from snake-poisoning in Hindoostan as 20,000 annually. In order of destructiveness the cobra takes the first place, and the krait, or Bungarus cœruleus, the second.

NATURE OF LIFE.—We clip the following from the Philadelphia *Sunday Dispatch* of the 25th ultimo. Its perusal cannot fail to provoke a "molecular" smile, and to sharpen the "protoplasmic" appetite of our readers:

"Professor Poey, of Lycoming county, in this State, has been trying to tell us what 'life' is. According to Poey, 'Life results from a double molecular motion, general and continuous, of composition and of decomposition in relation to the organism and the inorganic medium. The medium is the combination of external agents, physical and chemical, proper to furnish to the organism the principles necessary for its nutrition and the manifestation of the properties of its anatomical elements.'

"Strange! how Error fastens itself in the human mind, and by its rank growth chokes the tender plant of Truth! During all the fourscore years of our existence we have cherished the fond delusion that Life was rather an immorigerous outgrowth of a retiary paradox, which engrafted upon the persiflage a mephitic diapason, causing it to permeate the neurosthenic rhomboid, and so producing isothermally protoplasmic vitality. That is what *we* thought Life was. But we see the mistake now, since Poey mentions it! It is hard, though—very, very hard—to see the idols of our youth thus thrown down and broken one after the other. And by a man named Poey, too! It will make our whole Christmas season sad."

A BITTER ENDING.—Recent despatches mention the death, from intense cold, of *nearly all the occupants of fifty-six railway-carriages* filled with wounded Prussians on their way to hospital. The story may be exaggerated, possibly it is altogether false; but it recalls the horrors of the Russian campaigns of the First Napoleon.

ACCIDENT INSURANCES.—A man in Michigan was recently robbed and murdered while on his way home, on foot. He held a policy in an accident insurance company, and his administrator sued to recover upon this. But the court sustained the company in their position that travelling on foot did not come within the expression "by public or private conveyance," used in the policy. We cannot but think this decision a strange one; and it will affect very materially the value of such policies, if it becomes a precedent. Surely they ought to cover all accidents met with while the holder is travelling upon his lawful business, whether on foot, by carriage, by steamer, or by railroad.

BELLUM IN PACE.—It is reported that Dr. Pigache, of St. Cloud, was recently shot through the head by a *franc-tireur*, while on his way to visit a woman in labor.

AN EXCELLENT CHOICE.—Dr. Isaac Ray, the distinguished author on Insanity, has been lately elected a member of the Board of Guardians of the Poor of Philadelphia, and has been placed upon the committee having supervision of the Insane Department of the Philadelphia Hospital.

ROMAN PRISONS.—A commission has recently been appointed by the Italian government to examine into the state of the prisons and other places of punishment in Rome. One of its members is Dr. David Toscani.

HOSPITAL CHANGES.—Drs. H. B. Hare and Herbert Norris have been elected visiting physicians to the Episcopal Hospital, Philadelphia, to fill the vacancies caused by the resignations of Drs. H. C. Wood and Edward A. Smith. The election of Dr. Norris caused a vacancy in the staff of dispensary physicians to the Hospital, of which he had recently been elected a member, and this has been filled by the election of Dr. Wharton Sinkler.

IS PIROGOFF DEAD?—A year or two ago we had a detailed account of the death of this eminent surgeon, from excitement after an encounter with robbers. But in the *British Medical Journal* for October 29, 1870, we find that,

"According to the St. Petersburg papers, the celebrated Russian surgeon Pirogoff, at the special order of the Czar Alexander, set out for Bâle at the end of September, in order to place himself at the disposal of the National Association for the Aid of the Wounded, for service on the theatre of war in France."

RECENT REMOVALS OF PHYSICIANS.—The following physicians have lately changed their residences:—Dr. H. Allen, from 1135 Spruce Street to 1109 Arch; Dr. David Burpee, from 326 S. 16th Street to 1332 Arch; Dr. I. V. Ingham, from Arch Street above Broad to 1342 Spruce; Dr. Frederick W. Lewis, from 857 N. 16th Street to 336 N. 10th; Dr. E. A. Spooner, from 311 S. 15th Street to 1430 Spruce; Dr. W. S. W. Ruschenberger, from 1932 Chestnut Street to the U. S. Naval Asylum, Gray's Ferry Road.

Dr. D. F. Condie has removed from the city. His address is "Morton Station (Westchester R.R.), Delaware co., Pa."

MORTALITY OF PHILADELPHIA.—The following statements are condensed from the Health Office Reports:

	For the week ending	
	Dec. 24.	Dec. 31.
Diseases of the Brain and Nervous System	41	46
Diseases of the Organs of Circulation and Respiration	101	110
Diseases of the Abdominal Organs	14	20
Zymotic Diseases	22	26
Constitutional Diseases	10	9
Casualties	2	5
Stillborn	19	15
Unclassified	48	48
Unknown	0	1
Adults	136	145
Minors	121	135
Totals	257	280

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM DECEMBER 18, 1870, TO JANUARY 3, 1871, INCLUSIVE.

HASSON, A. B., SURGEON.—By S. O. 272, C.S., Headquarters Department of the South, granted leave of absence for *thirty days*.

McELDERRY, H., ASSISTANT-SURGEON.—By S. O. 162, C.S., Headquarters Department of Texas, relieved from special Quarantine duty and ordered to Fort McIntosh, Texas, for duty as Post-Surgeon.

BENTLEY, E., ASSISTANT-SURGEON.—By S. O. 368, A.G.O., December 20, 1870, leave of absence extended *thirty days*.

DICKSON, JOHN M., ASSISTANT-SURGEON.—By S. O. 121, C.S., Headquarters Military Division of the Missouri, leave of absence extended *thirty days*.

O'REILLY, R. M., ASSISTANT-SURGEON.—By S. O. 385, A.G.O., December 31, 1870, relieved from duty in the Department of California, and to report to the Commanding General Department of the Platte for assignment to duty.

STORROW, S. A., ASSISTANT-SURGEON.—By S. O. 268, C.S., Headquarters Department of the South, granted *thirty days'* leave of absence.